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PSYCHOLOGY AND MEDICINE

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A great deal of discussion has gone on of late as to whether Psychology should have a place in the Medical Curriculum or not; whether the Medical Student should have this subject added to the already overloaded list of subjects which are deemed essential to turn him out as a fully-equipped doctor. Every one must agree that, to say the least of it, a knowledge of this subject is desirable—but when and how should it be taught?—that is the question.

Throughout the history of medicine there have been some doctors who have shown the right kind of appeal to the minds of their patients, and who have been described as having a good bed-side manner. On the other hand, there have always been others who have entirely failed to gain the confidence of their patients. One might almost say that to the one type, medicine is a vocation, to the other, a mere means of livelihood.

To a certain extent, the true physician is born, not made, some doctors seem naturally to gain the correct niche in the minds of their patients and from the very outset of their careers are able to show that sympathy which makes the true appeal.

It may be said that on the whole the doctor with the greater knowledge and skill, and the greater capacity for applying it is naturally more capable of inspiring confidence in the minds of his patients than his professional brother of lesser attainments. This may certainly be true to some extent, but there is no doubt that some men who are endowed with excellent medical and surgical knowledge and practical skill are completely lacking in that tact which makes so much difference to the welfare of their patients.

It is within comparatively recent years that medical men as a whole are beginning to realise that their patients' progress depends not merely upon the treatment they receive but also upon what they are told, and what they are led to believe about themselves.

The advanced cardiac—the case of angina-pectoris, aneuria or Bright's disease, who has been told that he has only six months to live, loses his interest in life and often dies even before his six months have expired. Many who are administered suggestions of this sort would live for many years quite happily if such detrimental suggestions were not made. I wish to emphasize that I do not advocate the telling of lies to one's patients in order to give them false hope, in the vain effort to get them to live a day or so longer than their allotted span. I am not the person to suggest for one moment that the patient should not—under certain circumstances—be told the whole truth, if when all considerations are weighed up it is found to be advisable or necessary. What I do insist on is that the patient should not be deprived of his " will to live " and also

that he should not be led by his layman's ignorance to put a worse construction upon his own case than the true facts should merit. I remember a certain case of acute appendictis which to my mind should have run a perfectly normal course. Almost immediately after he regained consciousness following the operation he was told that he would be quite alright provided he did not develop general peritonitis. The unfortunate patient died of a condition described as shock. This death I firmly believe to have been totally and entirely unnecessary. To refer to a complication which need not have been visualised either by the patient or his surgeon, was surely detrimental.

I have frequently heard even good doctors say to their patients something like this:—I don't know whether this treatment will do you any good or not If it does not succeed we will try something else. I have also as frequently heard quite arbitrary and unnecessary criticism of another doctor—generally of one who had gained the patient's confidence.

In the history of Medicine, THOMAS SYNDENHAM, a physician of the 17th century, stands out sharply as a great doctor. His name is eminent not only in Britain but in other enlightened countries as well. Posterity conferred upon him a singular honour by speaking of him as the English Hippocrates. And we learn from the historian that he was not a distinguished man of science, had not been a professor at a University, nor a voluminous writer. He was merely an able general practitioner. He found the study of medicine very difficult. He became a bachelor of medicine at the age of twenty-four, but did not obtain his Licentiate of the Royal College of Physicians entitling him to practise Physic until the age of thirty-nine. He did not obtain his M.D. degree until he was 52.

Yet there are few who have so richly deserved a place of honour amongst great doctors of the past. Sydenham's success as a doctor was mainly due to his study of the patient as an individual both from the point of view of physiology and psychology.

In British Medical History there are few who have proved as outstanding as Sydenham, and it seems there must be some grave defect in the student's education. He spends some six years at least in study which must be more laborious than that demanded by any other profession. As a student his chief aim in life is to accumulate in his memory masses of facts which he must acquire in order to pass his examinations which follow one upon the other with disturbing frequency. Year by year he sees a perpetual falling off in the numbers of his fellow students who began their studies with him. The strain has proved too much for them. His mind becomes filled with the fear that his fate will be similar. Finally when he obtains his qualification he is mentally fatigued and fails to acquire that human interest which should be the spur to progress.

There is no doubt that at some time or other, the mind of the medical man should be directed towards the study of patients as individuals—and not as diseases, so that he may learn to evaluate as accurately as possible both the psychology and the physiology of his patients.

The greatest stimulus to the study of psychopathology of recent years has been the Great War with its aftermath of neurotic illnesses of all kinds. Since the War the interest of the general medical public has been aroused in the subject; many medical men who had hitherto regarded psychology as an amusement for hoary-headed old philosophers sitting in armchairs, became actively engaged in its study. The War inspired interest in such work as McDougall's "Social Psychology" and Trotter's "Instincts of the Herd in Peace and War." The works of Freud—his followers and his opponents were devoured.

Centres for the treatment of War Neurosis were opened in European countries, and in England men like ERNEST JONES, MAURICE NICHOL, CRIGHTON-MILLAR, HADFIELD, BROWN, HURST and others aroused the interest of the medical and lay public in psychotherapy.

Since the War it has become increasingly evident to the medical mind that it is not merely the neuroses that should be treated psychologically, it has become clear that there is a psychological side to every illness —that every patient is in fact a little neurotic. This is a view point that has been 'felt' rather than clearly understood by medical men throughout the ages for the therapeutic effect of suggestion has always been recognised but the way in which it acts upon the mind and the body has not until recently been considered.

It behoves us all, if we wish to become good doctors, to learn how to assess carefully how much of our patient's illness belongs to organic disease and how much to neurosis.

The question that arises then is this—should the student be definitely given a course in psychological

medicine during his curriculum or should the curriculum be extended to include psychological medicine? It seems that to add the weight of a subject so difficult and intricate as the psychological medicine of to-day would be a serious matter.

In order to obtain a working knowledge the student would have to study the whole subject—it would be futile for him to confine his attention to one branch. Psychopathology cannot be regarded as a true science even to-day and such a thing as a generally accepted view of it does not exist.

To outline, in brief, the subject-matter required: a working knowledge of normal psychology including social psychology is necessary, then a study of the work of all the current schools of thought in psychopathology including that of FREUD and his followers, JUNG, ADLER, JANET, DEJERINE, DUBOIS, the study of the physiology of reflexes and their relationship to mental activity leading through the work of SHERRINGTON and PAWLOW to the applied psychology of Behaviourism.

When it is realised that the schools of psychotherapy of to-day differ so widely and compares, for instance, the method of Persuasion as typefied by the psycho-therapy of Déjérine and Dubois with that of the psycho-analysis of the Freudian School, and when one observes with what acrimony and bitterness such Freudian authors as ERNEST JONES attack the viewpoints of JUNG and other members of what they contemptuously call the post-psycho-analytic school, the difficulties of the student can easily be understood. There would be no uniformity in the teaching of psychopathology in the various medical colleges. Here one would have a Freudian—there an anti-Freudian teacher, here an advocate of treatment by suggestion or hypnotism, there a psycho-analyst—it is impossible that any instructor could be free of bias in one direction or another. All this would serve to confuse the student who has already too much to think of.

Actually it seems that the writings of nearly all authors on the subject are brimful of fallacies, they all appear to forget that Psychology is only the beginning of a science; and the data of present day psychopathology rest on very insecure hypotheses.

There is no doubt that Professor FREUD of Vienna has done more than anyone in trying to establish a science of medical psychology—in fact his findings will undoubtedly cause a slow revolution in the whole of psychology. Some forty years ago he discovered that when hysteric patients were hypnotised and certain "traumatic" experiences were talked over, an intense emotional state was produced which he termed *abreaction*. This *abreaction* (or release of pent-up emotion) was followed by relief of the hysterical symptom. He later found that abreaction took place equally well in the waking state as in the hypnotic state, provided the patient was put under conditions which permitted his associations to flow freely. As a result of this discovery he developed the so-called *free association method of treatment*. In order to explain these phenomena he elaborated the theory that certain ideas were repressed into the so-called *unconscious mind*. These 'ideas' were emotionally charged, and whilst in a state of *repression* were capable of exerting a dynamic force detrimental to the personality. As the mental material produced during free association was usually of a sexual type, FREUD decided that the universal cause of neurosis was repressed sexuality. Although his original views have undergone certain modifications his main theory still persists. His views have been hotly opposed by JUNG, ADLER and others.

JUNG believes that the starting point of the neurotic's troubles is in the present—where there is a failure in adaptation the psychic energy or *libido* which has hitherto borne him along, being turned back to occupy itself with the feelings and ideas of earlier life. ADLER's view is that the neurotic has from the start a physiologically inferior constitution, the unconscious recognition of which gives him the "Feeling of Inferiority." This in its turn gives rise to the struggle for power. Any failure to arrive at the ideal of power is compensated for by the neurotic symptom, a convenient arrangement which enables the neurotic to live on, despite his failure.

It can be seen that the views of FREUD, JUNG and ADLER are not mutually exclusive. They may all contain truth, and may even be complementary, one to the other. These views are very instructive and a study of them in outline gives a very clear insight into the structure of neurosis. It is a remarkable fact, however, that in my experience, and in the experience of many others, the method of persuasion or reasoning with the neurotic as described by Dr. PAUL DUBOIS appears practically to be much more profitable on the whole than the method of psycho-analysis. Whilst DUBOIS' method appears to act beneficially in nearly all cases the method of analysis sometimes fails dismally. It is disheartening in the extreme to find sometimes that a case that one has

treated for as long as two or three years by the method of analysis, is no better or even worse at the end of that period. One finds sometimes that the patient becomes obsessed with the idea that he must analyse and explain all his feelings, impressions and emotions. He becomes introspective and more hopelessly neurotic than before. Analysis demands a skill in the analyst which is not always available. Further, analysis aims at an exploration of the whole of the structure of the personality—it attempts to reconstruct the personality. It is true that after analysis one sometimes meets with a very changed personality. Life is as it were started afresh. It may be possible that such a fresh start is desirable in some cases, but this is certainly not so in all.

One fact of great practical importance does certainly emerge from the work of the psycho-analytic school—this is that the method of free-association has a definitely curative effect. But it must be remembered that this is a method of mental catharsis that has been employed for centuries and though it is now given a new name it cannot be considered a new weapon. The practice of confession in the Church of Rome is an example of this. The relief that is afforded to the mind by pouring out one's troubles to a friend is too well recognised to need any comment.

Free-association is employed by DUBOIS as part of his method of persuasion, though he does not call it by that name. But by Dubois' method after the neurotic has poured out his grievances to the listening physician—the latter carefully discusses the patient's ideas and makes a positive effort to adjust them by reasoning and thereby gains a much more rapid and a better practical result.

It appears to me that one of the greatest fallacies of psycho-analysis it to posit a system of ideas which is unconscious. To talk of unconscious thinking, or unconscious mental processes is clearly a contradiction in terms. The neurotic is nearly always quite well aware of his offending " complexes "—but because they are objectionable to his personality he is unable to keep them in the forefront of his consciousness. They remain in what WILLIAM JAMES calls the " fringe " of consciousness. I have to thank Dr. T. A. Ross for confirming this particular view-point in my mind. He has emphasized it in his book " The Common Neuroses " which should be read by all. During free-association the " Complexes " generally emerge without any special difficulty provided the patient has a certain regard for the physician which FREUD somewhat unnecessarily terms " positive transference." The patient is usually quite ready to recognise such " complexes " as his own ideas, that he has always been aware of.

Rational psychotherapy should, in my opinion, be employed by every doctor in his daily practice—but owing to the diversity of opinion that now prevails, I consider it to be beyond the scope of the student. I do not think it should be included in the curriculum. I consider that it should be studied by him whilst he is in active practice as it is only then that he can appreciate its value. During his student career he has to grasp the data required by him for the diagnosis and the treatment of organic diseases and he has to pass examinations—it is hard to believe that at this stage he can be bothered with psychology. It is later on when he has received his ordinary qualification that he should study psychopathology. Such a study should, in my opinion, be compulsory, and should be the ultimate qualification giving him the right to practise. Such a study should be combined with the early practical study of one's patients as such, and not as examination material.

ON THE POSSIBLE ROLE OF DIET IN TUMOUR FORMATION

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Evidence is now accumulating to the effect that diet may play a part in tumour formation. Thus McCarrison (1925-26) found histological changes in the stomach of rats fed on a ' bad diet ' and in one monkey, which was being fed on autoclaved rice, butter, and onions, he observed a cancerous condition of the pylorous. Squamous cell proliferation and metaplasia have also been observed in the stomach of rats fed on a diet deficient in vitamin A as reported by Saiki (1927), ~~Guyand~~ Goldblatt and ~~Benesiak~~ Benischek (1927), Fujimakes (1927) and Bisceglie (1931). Dalldroff and Kellogg (1932) have reported the incidence of gastric ulcers in white rats fed on vitamin B deficient diet.

The observations recorded below on rats and pigeons, which were fed on diets deficient in vitamin B complex, strongly suggest also that vitamin deficiency may play an important part in tumour formation.

Method of Experiment

Rats and pigeons were fed on unbalanced and vitamin deficient diets. For the former two basal diets were used viz: (1) Rice, partly polished, milled and autoclaved for 1 hour 45 minutes at 130 lb. pressure.

(2) A synthetic vitamin B deficient diet consisting of Casein (oxidised, B.D.H.) 20 parts.
Starch (purified, B.P. or Rice starch) 60 ,,
Olive Oil ... ... 10 ,,
SaltMixture (McCollum and Daivs) 5 ,,
Agar-agar (purified, B.D.H.) ... 2 ,,

The above ingredients, after being thoroughly mixed, were autoclaved for 1 hr. 45 minutes at 130 lb. pressure.

The growth and the progress of one half of the rats of a given litter fed on one of the above basal diets were compared with that of their fellows of the same litter which were fed on the same basal diet with the addition of 5% marmite.

Cod-liver oil was given separately and daily to all the animals fed with either diet. This supplied vitamin A and D; rats do not require vitamin C.

For pigeons the basal experimental diet was autoclaved rice only. The controls received sprouting gram (*Cicer Arientinum*) and whole dry gram.

After the animals had developed the usual symptoms of loss of appetite, fall of body weight and temperature with polyneuritis or paralysis, they were killed by stunning and their fresh tissues were examined, first under the dissecting microscope and then, later ordinary histological studies were made.

Observations

In 17 out of 20 rats fed on autoclaved rice diet, and in 6 out of 40 rats fed on the synthetic vitamin B deficient diet, I observed the occurrence of papilliform new-growths in the stomach (see fig. 1). These new-growths were fixed, soft or hard and keratinised, single or multiple. They either filled the entire fundus, or else they appeared as ulcers near the curvatures.

Under the dissecting microscope they were found to be polypoid, pedunculated masses, and could easily be separated with dissecting needle from each other. The mucous membrane was always intact, and there were neither hæmorrhage nor congestion round or in the growth.

Microscopically (see fig. 2) the growth appears as a squamous cell proliferation, or as an attempt at transformation of the normal columnar epithelium into stratified squamous type. In some of the growths (fig. 3) there is also an attempt at cell-nest formation by the stratified epithelium. The growth has its own core of connective tissue with blood vessels.

Fig. 4 shows the new-growth of the stratified epithelium situated between normal columnar cells. It

is a condition of squamous cell infiltration with metaplasia, and a transformation of the columnar cells into the squamous type.

None of the control animals showed any growth in the stomach except one rat which, fed on the stock diet of milk and sprouting gram, developed a rapidly growing lympho-sarcoma from the mesentery involving the liver and the mesenteric glands (Fig. 6). On section through the tumour mass of the mesentery, and in the liver encysted worms were observed (fig. 5).

McCarrison (1925—26) has also reported the occurrence of papillomatous growths in rats fed on a ' white-bread-margarine and tea ' diet. My observations supplement these and add to them the points that the incidence is very high in rats fed on autoclaved rice, and that the absence of vitamin B may also be a factor determining the occurrence of the new-growths.

The culture of the stomach contents of the rats showed the presence of a non-hæmolytic streptococcus viridans mitior in 50% of the deficient fed rats, in 4% of the animals receiving the basal diet with the vitamins, and in 2.5% of rats having the stock diet of gram and milk.

The microscopic examination of the stomach contents showed neither the presence of any cyst or worms, nor degenerated cells, nor red blood corpuscles. The chemical and the spectroscopic examination for blood was also negative.

A similar condition of the presence of a tumour was found externally on the skin surface of 2 pigeons out of 200 pigeons fed on the basal diet of autoclaved rice diet. None of the pigeons receiving either sprouting gram, or crushed whole gram or a diet of mixed cereals developed such growths; the animals developing the tumour belonged to different cages: and batches of pigeons on control diets were put in the same cage without developing tumour.

Such growths were found to show on microscopic examination (see figs. 7, 8 & 9) a squamous-celled new growth surrounded by organising tissue, with hæmorrhage and necrosis at places. These hæmorrhages, however, may be due to trauma for I observed that pigeons very commonly hit one another. There were no cell nest formation, or prolongation of the papillary layer as was observed by McCarrison (1923—24). The histological structure of the tumour found by me in pigeons thus differs from that found by McCarrison. In agreement with this was the further fact that emulsions made from tumours removed from the living birds and injected into the healthy pigeons failed to produce any growths; nor did the scarified areas at the situations of the growths in the healthy animals show tissue changes similar to or like the primary growth. The tumours observed by McCarrison, however, were diagnosed by him as being ' epitheliomata contageosa ' whereas these tumours were simple papillomata having a core of connective tissue with proliferation of the squamous cell.

The pathogenecity of streptococcus viridans mitior, in rats is low (Med. Res. Council Report, 1929) and these organisms may normally be present in the stomach in rodents (Muir and Ritchie). Kligler (1919) suggested that the vitamin contents of the food is a factor in the growth of streptococcus, but the work of McLeod and Wyn (1921-23) and that of Ayer and Mudge do not agree with his findings.

Rosenow (1915) cultured streptococcus viridans mitis from human gastric ulcers in 96% of cases, and produced lesions like gastric ulcers in 60% of rabbits by injecting the culture of streptococcus mitis. But Celler and Thalmi (1916) could not agree with his results. Cushing and Livingood (1900) suggested that though normally there are no bacterial flora in the stomach, they may yet enter with the food.

The gastro-intestinal stasis and the marked atrophic changes in the intestines and stomach, observed in the course of vitamin B deficiency, may possibly provide, however, a suitable soil for a normal non-pathogenic organism as well as for pathogenic organism to produce an irritation of the unhealthy mucosa when helped by the stasis, and so lead to cellular proliferation and tumour formation.

When a supporting rope breaks, we fall; while falling, we may sustain injuries from the surrounding surfaces. The support deficiency is not, however, the direct cause of the injuries. Further, if the injuries get infected, cellular infiltration may follow and not only form a keloid but also can become malignant. Similarly, when the supporting vitamin is deficient, the body may sustain the equivalents of injuries at various places, and it may be that organism get a hold at those places and produce cellular infiltration.

My suggestion therefore is that a soil deficient in vitamin B may not only form a suitable soil for certain organisms to flourish in particular localities, but also that the products of the activity of those organisms

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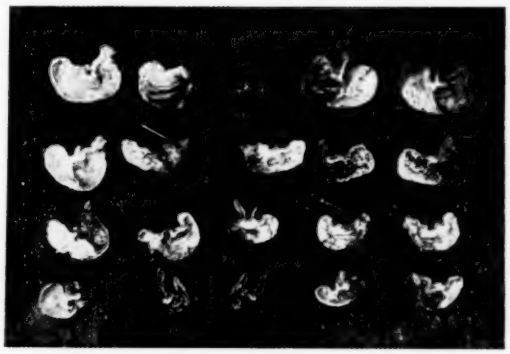

FIG. 1
Stomach of rats fed on rice diet.

FIG. 2
Stomach of rat fed on rice diet

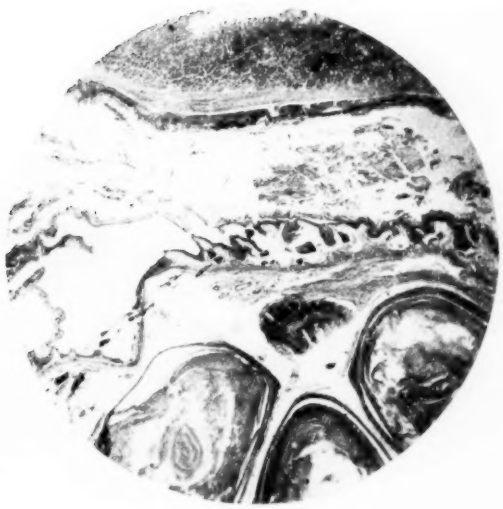

FIG. 3
Stomach of rat fed on rice diet

FIG. 4. (Low power)

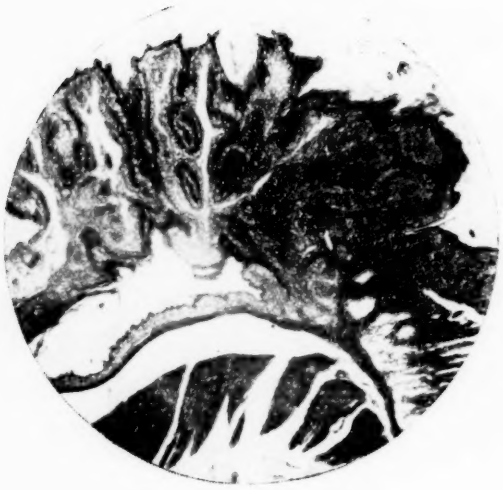

FIG. 4. (High power)

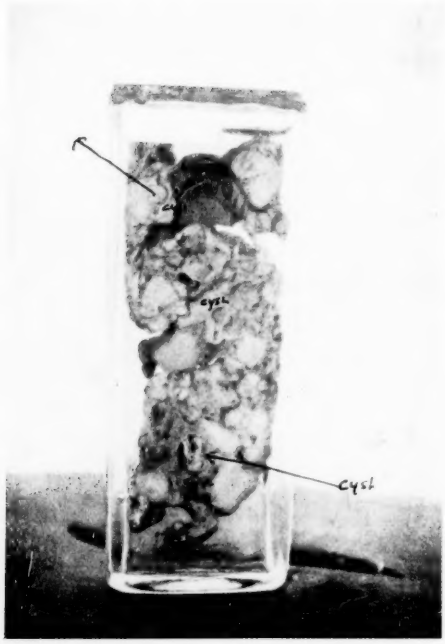

FIG. 5
Encysted worms in mesentery and liver

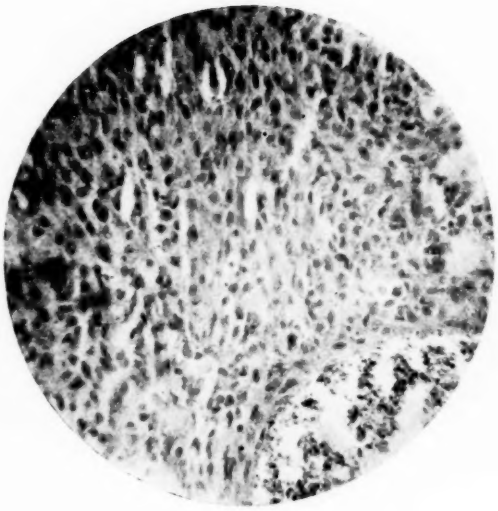

FIG. 6
Lymphosarcoma of the mesentery

FIG. 7
Stomach of pigeon on basal diet of autoclaved rice

FIG. 8
Stomach of pigeon on basal diet of autoclaved rice

FIG. 9
Stomach of pigeon on basal diet of autoclaved rice

may be at those same sites capable of inducing cell proliferation. In part these suggestions agree with those already put forward by Eradman and Haggen. They regard a growth as the result of a combination of actions. The one action is represented by vitamin B balance, the other by the miscellaneous external irritants known to be factors in the production of cancer. I have extended these possibilities, however, by suggesting that an organism deficient in vitamin B may form a soil suitable for the development of specific organisms just as a soil deficient in lime is suitable for the heather. The other suggestion is that a different soil may also react differently to irritants, so that an irritant, which is carcinogenetic in vitamin B deficient soil, is not necessarily so in a soil of adequate vitamin B content. In addition it may also be that an agent very feebly carcinogenetic in a normal soil, may be strongly carcinogenetic in a soil of deficient vitamin content.

Summary and Conclusion

1. 17 out of 20 white rats fed on autoclaved rice diet and 6 out of 40 rats fed on synthetic vitamin B complex deficient diets had papillomatous growths in the stomach.

2. 2 out of 200 pigeons fed on autoclaved and milled rice had papillomatous growths in the skin.

3. Stomach of rats fed on a stock diet of sprouting gram and milk had no growths.

4. 1 rat out of 600 rats fed on a stock diet of sprouting gram and milk developed a rapidly growing lympho-sarcoma from the mesentery.

5. Culture of the stomach contents in rats showed the presence of a non-hæmolytic streptococcus viridans mitior, in 50% of the deficient fed rats, in 4% of animals receiving the basal diet with vitamins and in 2.5% of rats having the stock diet of gram and milk.

6. Injection of the emulsion from the tumours removed from the birds into the healthy pigeons had no effect.

7. A diet deficient in vitamin B forms a suitable soil for the organisms to flourish which later induce cellular infiltration and tumour formation.

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References

Ayers and Mudge (1922)—*J. Bract.*, 7, 448.
Bisceglie (1931)—*Tumori.*, 17, pp. 187-80.
Celler and Thalmi (1916)—*J. Expt. Med.*, 23, 791-812.
Erradman and Haggen (1923). Cited by E. Browning—*The Vitamins*, London (1931, p. 42).
Daldrof, G. and Kellogg, M. (1932).—*J. Expt. Med.*, 56, 391-398.
Fujimaki (1927). Cited by E. Browning—*The Vitamins*, London (1931, p. 42).
Goldblatt
~~Gow~~ and ~~Benenishak~~ Benisheh (1927)—*J. Expt. Med.*, 5/6 41, 699-708.
Kligler (1919)—*J. Infect. Diseases*, 10, 527.
McCarrison (1923-24)—*Ind. Jour. Med. Resch.*, xi, p. 1129.
McCarrison (1925-26)—*Ibid*, xiv.
McLeod and Wyn (1927)—*J. Path. Bact.* (1921), 24, 205.
McLeod and Wyn (1927)—*Ibid*, (1923), 21, 441.
Muir and Ritchie (1927)—*Bacteriology*, 4th, p. 241.
Rosenow and Sandford (1915)—*J. Inf. Diseases*, xvi, 219.
Rosenow and Sandford (1915)—*J. Med. State Ass.*, viii, 459.
Rosenow and Sandford (1915)—*J. Am. Med. Ass.*, lxv, 1687.
Saiki (1927). Cited by E. Browning—*The Vitamins*, London, 1931, p. 42.

DIETS IN RELATION TO DISEASES WITH SPECIAL REFERENCE TO TUBERCULOSIS AND LEPROSY

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Recent researches on dietary essential factors have not merely added a new chapter in the books of Nutrition or books of Chemistry, but an entirely new chapter has been annexed in the books of Medicine where diets have been so long playing a minor part in the treatment of diseases.

But the fact is now being admitted on all hands that diseases are nothing but the outcome of faulty nutrition, and as such diets play a very important part both as prophylactic and curative in the treatment of diseases.

Deficiencies in the diets are well-known to produce a number of diseases in our system, and the present series of experiments described here is a continuation of the same line of work.

Tuberculosis and deficiency of vitamins

It is well known that the invasion of our systems with the tubercle bacilli is not the only cause of the production of the disease. These can produce effect when the tissue-resistance is simultaneously lowered. In fact, the whole treatment with Tuberculin can be said to be based upon this general idea.

It is now beyond dispute that the defects in our daily foods are the primary cause in lowering the resistance of the body. Insufficiency of air, light and exercise no doubt plays some part in lowering the tissue-resistance but that is only a minor factor. But doubts and differences in opinion still exist as to the exact role of vitamin A in the production of these lowered tissue-resistance. Ever since the discovery of vitamin A and its recognition as a separate entity essential for the normal growth of the tissues, it has been attempted to find out the exact nature of pathological changes that are produced in the different systems when there is deficiency of vitamin A in the diets of the experimental animals. Repeated observations have shown that deficiency of vitamin A in the food produces anæmia, thrombopenia and anorexia, and these are the predisposing causes for lowered tissue-resistance which in turn affords ample opportunities for the tubercle bacilli to invade the system. Under these circumstances, diseases of the respiratory system have been found to be occuring more frequently, and for the cure of most of these types of diseases vitamin-fraction of cod liver oil has been proved to be the best.

Experimental proof—A number of guinea-pigs (30) was inoculated with tubercle bacilli and these were divided into three sets. Group No. 1 was given a diet very deficient in vitamin A and this was kept as a control. Group No. II was given diets containing vitamin A in good amount from the very beginning. Animals of the Group No. III also received this diet containing vitamin-A but these had vitamin A added to their diets when the disease was manifest.

After a period of three months, animals of the control Group I showed the highest percentage of mortality (90%) animals of Group No. III showed mortality of 70%, but the animals of Group No. II showed the least percentage of mortality which was 40%.

The next series of experiment was carried on with a fresh batch of guineapigs (Group No. IV). And this time before injecting the animals with tubercle bacilli, their diets were made to be rich in vitamin A for a month, when these were inoculated. And after a period of four months, percentage of mortality in this series was found to be only 25%.

In the animals of Group No. I and III., the following facts wert noted:—

I. Weights of the animals were declining in every case.

II. Percentage of hæmoglobin and number of the red blood corpuscles in all these animals were gradually failing down.

III. Appetites of most of these animals gradually failed.

A new series of experiments is described to show the incidence of tuberculosis as affected by other vitamins B, C and D.

For experimental purpose thirty guineapigs were inoculated with tubercle bacilli, and these were divided into five groups.

Group No. I was kept as control, and the animals were given diet very poor in all the four vitamin factors.

Group No. 2 received diet rich in all the four vitamin factors.

Group No. 3 received diet deficient in vitamin-B, but rich in all other respect.

Group No. 4 received diet deficient in vitamin C, but rich in all other respect.

Group No. 5 received diet deficient vitamin D, but rich in all other respects.

After a period of three months, the following percentages of mortality were observed among the different groups:—

Group No.	Diet	P.C. of mortality
1	Deficient in four factors	90
2	Rich in four factors	33
3	Deficient in B factor	50
4	Deficient in C factor	50
5	Deficient in D factor	66

From the above figures it is evident that the incidence of tuberculosis is greatly affected by various vitamin factors present in the diet and particularly with the vitamin D content of the food. It is no wonder that vitamin D would have such a marked effect in the causation of tuberculosis, when it is known that calcium metabolism is so intimately related with vitamin D.

These experiments lead one to conclude that tuberculosis is a disease primarily due to deficiency of dietary essential factors or vitamins.

1. Anorexia and gradual loss of weight are the two prominent symptoms of pre-tubercular stage, and with this vitamin B is connected.

2. Loss of integrity of epithelial tissues provides loop-hole for entry of bacteria into the system, and with this vitamin A is connected.

3. Diminished resistance of tissues also provides facility for entry of bacteria, and with this vitamin C is also connected.

4. Calcification of foci is the only measure for checking progress of the disease. And this is helped by vitamin D.

Leprosy and deficiency of vitamin B complex

Collecting datas regarding the diets of the leprosy patients we have found that the main foods used by such people are low quality of rice, plenty of salt, stale fish or a special preparation of fish dried for a long time in the sun with salt. Analysing this diet we find that their diet is very poor in vitamin B complex and in protein. On further analysis with this diet, it was found that of vitamin B complex, factor B_2 was more prominently absent than B_1.

Next we selected a number of early cases of leprosy and started treating them with vitamin B concentrate prepared from yeast. In course of a month's treatment, when half a tea-spoonful was given twice daily, it was observed that cases with anæsthetic patches showed marked improvement and regained sensation of the skin. It was also found that the duration of the treatment depended upon the severity of the case, the earlier the case the quicker the response with this treatment. Cases of nodular type failed to show any progress to the same degree of satisfaction.

This leads us to suspect that deficiency of vitamin B factor from the diet is important in the ætiology of leprosy, and absence of other dietary factor (protein) plays an accessory part.

MYIASIS AND LEPROSY

Capt. V. B. ATHAVALE, M.B.B.S., D.T.M.D.T.H.
Nasik

Myiasis is defined as a condition or conditions resulting from the invasion of the human tissues by the Larva of Diptra (Fly). This condition is not of an uncommon occurrence, and I believe that a medical practitioner in the Tropics often comes across such cases of Myiasis during the routine course of his profession. And yet it is a fact that the interesting features in connection with the ætiology of this disease have never as yet attracted the attention of the medical practitioner.

To illustrate this condition of Myiasis, I will describe hereafter a case which came under my observation in the month of January, 1935.

A boy aged 18 years with an advanced case of nodular and anæsthetic leprosy of ten years' duration, was seen by me on the 16th January, 1935, suffering from an extensive and a very painful swelling of the right side of his face. The patient was evidently in great distress,—partly because of the severe pain and partly because he felt choked up, and could only breathe with difficulty by keeping his mouth open.

The duration of this trouble was stated to be 8 days, and the patient passed sleepless nights all these days. His temperature was 102°F and pulse 120 per minute.

The swelling was well marked over the right eye and it extended below over his right cheek and nose. A serosanguinous discharge was dribbling from his nose, and along with it occasionally a few maggots used to drop down from his nose and mouth. The relatives of the patient had collected in a tin box most of the maggots that had so fallen down, during the last 3—4 days and these were shown to me.

On carefully examining the patient I found that his lungs were clear, heart beats normal and regular, bowels soft and normal, and he had no trouble of urination.

The patient gave a history of a similar previous attack some four years back, but that was not so severe as the present one.

Evidently now this being a case of Myiasis of the nasal sinuses, I assured the patient that he will soon recover from his illness, and prescribed the following treatment:—

1. Veramon tablets as an hypnotic dose, and

Camphor	grs. 10
Carbolic Acid	grs. 10
Olive Oil	ounce 1

Mitte. Nose drops, to be put twice a day.

Next instructing the relatives of the patient to collect and send me all the maggots that might drop down thereafter I carried with me those that were already collected, in order to investigate their nature and species.

The maggots were all alive, as they could be seen wriggling and moving about in the tin container. Each maggot measured about a centimeter and a half in length. Its body was cylindrical in shape with a tapering anterior and a broad posterior end. The diameter of the cylindrical body was about 0.4 centimeters.

The colour of the maggot was greyish white, and when seen through a hand lense, the outer surface of the cylindrical body showed about 11 raised ridges encircling it and dividing it into 12 segments.

After this detailed examination, I came to the conclusion that these maggots were the 3rd stage larvæ of a fly known as "*Crysomyia Bezziana*."

While conducting the dissections, I had also made some smears by rubbing portions of the tissues of the maggot on glass slides. These were dried and fixed by heating and stained with Ziehl Neelson's method. On examining them under the microscope, I could detect a large number of acid fast bacilli (Hensen's Bacilli). As the maggots were actually feeding on leprous tissues, I thought that the acid fast bacilli found in smears may only be those that may be sticking to the outer surface of the maggot or they may be those that were injested by the larvæ.

My interest was now greatly aroused by this finding and decided to breed out the adult flies from

the maggots, in order to see whether the acid fast bacilli persist during the metamorphosis of the maggot into the adult fly.

In a clean wide mouthed glass bottle fitted with a tin stopper screwed on it, and containing some fresh meat chops, I kept the maggots, to allow them to grow further. In the tin stopper about 4—5 small perforations were made to admit air into the bottle, for the maggots.

Watching the progress, I noticed that larvæ were getting less active and that they had stopped feeding on the meat. Their outer skin went on becoming darker in colour. So the meat pieces were removed from the bottle and were replaced with some dry lumps of earth. Later on, within the next 3—4 days' time all the larvæ had gone into a stage called the pupæ. The colour of the pupæ, simulated that of the lump of earth to such perfection, that it required a very careful combing through the contents of the bottle to fish out and separate the pupæ from the lumps of earth. Then after about 10 days, a couple of flies were seen having come out, by breaking the pupal case, at one end with a circular cut (Cyclorrhapha).

The next day I noticed that most of the pupæ were broken up and the adult flies had emerged out of them, and they were now seen flying about inside the bottle, with their wings nicely spread out and dried. These flies were of a metallic greenish blue colour, and they looked exactly like the " blue bottle fly " which we commonly see in latrines or in bazars where sweetmeats and fruits like water melons are sold. But this fly which was bred out from the maggots, has certain features which distinguish it from the common blue bottle fly. (Arrangement of the eye facets).

Prof. Patton, the great Entomologist, to whom we now owe all our present knowledge about this fly, has, after a great deal of strenuous work, studied in details the life history of this fly, and it has been conclusively proved by him that this is a specific fly which is a great source of danger in producing the condition of Myiasis. The life history of this fly may be briefly sketched here.

The specific term given to this fly is " Crysomyia Bezziana " and it belongs to the group of flies known as the Metallic Calliphorine. The adults (males and females of this " Crysomyia Bezziana " species are wild Diptera, and as such they live far away from human habitations. They feed on tree and plant juices, and the males and females copulate. The impregnated female then, when it is ready for oviposition, stealthily approaches the places of human habitations, in search of suitable nidus to deposit her eggs on. As the larvæ that hatch out of these eggs require especially living human tissues to feed on, the mother fly, as though by natural instinct, and also being propagated by her sense of smell, soon finds out some individual with an open and discharging wound, and she quietly lays down her eggs either in, on or in the vicinity of the wound. The larvæ that hatch out of these eggs are very active and they immediately reach the wound and proceed feeding on the human tissues. Here they feed and grow and pass through 3 larval stages.

The full grown third stage larva, when it becomes ready to go into the pupal stage, needs no more feeding and hence it automatically leaves the tissues and drops down on the ground. It then crawls about to find out a suitable hiding place, where it can pupate and remain unnoticed. Thus the larva moves to some cracks or crevices in the ground, or to some secluded dark corners in a house, where it settles down and then becomes quite motionless, and its outer skin becomes dark and hard. This stage is known as the pupa, and under the covering of the outer hard and black skin—the pupal case—the tissues of the larva undergo a metamorphosis and from them the structure of the adult fly is built up. The fully developed fly then comes out of the pupal case by breaking it open at one end with a circular cut. It rests in the hiding place for a short time until its wings get dried and then it flies away again into wilderness.

It will be noticed from this short account of the life history of this fly, that the adults of this species, being wild, it is impossible to catch hold of them in nature. They can only be obtained for observation, by breeding them out from the maggots secured from Myiasis cases.

Moreover we, living in the tropics, often see so many types of flies frequently visiting our houses or the bazars and the commonest of these are the house fly, the blue bottle fly, the stable fly, etc. At some places these are so numerous that one is apt to think that the maggots found in cases of Myiasis might be the larva of these common flies. But it must be noted that this is not so. Because the females of these common flies will deposit their eggs preferably on some stuff like the human excreta, stable manure, or decaying vegetable matter, because

this sort of material only forms the suitable food for their out-coming larvæ. Thus is has been shown that each species of fly has its special breeding places, where the suitable food for its larvæ can be secured and these it knows and finds out by instinct.

It must be mentioned here that the Crysomyia Bezziana is not the only fly species which produces the condition of human Myiasis. There are some other species of flies which are capable of giving rise to a similar condition by depositing either their eggs or larvæ on human tissues which forms also their suitable food stuff. The life histories of these other specific flies have also been worked out in details by Prof. PATTON and other workers.

From all these observations, it has been concluded that there are in nature certain specific flies which prefer the living human tissues, to deposit their eggs on, because this forms the natural food of their larvæ, and thus it is that the condition of Myiasis in human beings results.

To minimise the occurrence of this condition, it is very important to bear in mind that the maggots found in wounds, must never be thrown away, before they are completely killed by boiling so that there is no chance of the adult fly breeding out of them, which again in its turn is a great source of danger in producing Myiasis.

Similarly patients must be warned not to keep their wounds open when they will be going about their business.

Turning now to my further observations, in connection with the fate of the acid fast bacilli that were found in the smears made from the larval tissues, I proceeded thus—

I killed the flies with chloroform and dissected them. Then smears were made from their tissues, and the slides were labelled as per each fly, killed and dissected. The smears were dried, then fixed with heat and stained with Ziehl Neelsen's method.

On examining the stained smears under the microscope, I could detect the presence of the acid fast bacilli in 3 specimens of the smears. They were comparatively very small in number but their morphology did not appear to have changed in any way.

These observations have so far led me to believe that the Hensen's bacilli might be finding this Crysomyia-Bezziana a suitable medium or an intermediate host for the propagation and communication of the infection. The verification of such a hypothesis would, of course, depend on further vigorous investigations and research work in the same direction.

A VISIT TO HARROGATE SPA

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Rangoon

Having suffered from some " rheumatic " manifestations, such as stiffness and " twitches " in the lumbar region, especially while playing games and on sudden exertion, I made up my mind to visit one of the watering places while I was on leave in England. Curiosity as to what was actually being done and the futility of ordinary medical treatment also weighed in the balance. Harrogate was the Spa selected The observations made here refer to Harrogate only because I happened to visit this excellent watering place. There are many others, such as Buxton, Droitwich and Bath where efficient treatment is available for all the diseases for which Spas are famous.

Situation and Climate—Harrogate is situated near Leeds in Yorkshire within easy reach of London. Convenient and comfortable train service is available, the time taken each way being a little over three hours. The climate is dry and bracing all the year round.

Hotels—There are numerous hotels at Harrogate, ranging from fashionable and expensive ones to those which are comfortable and yet suitable to all pockets. Some " private " hotels are no bigger than ordinary boarding house. The selection of a hotel is a matter for the patient to decide but the Spa authorities will always give willing advice if your requirements are stated.

Other Amenities—The authorities provide very good music in their Winter Garden. There are also good cinemas and theatres. Restaurants and tea-rooms are to be found everywhere.

Expense of the Treatment—That Harrogate is only visited by the rich and that the treatment is very expensive—a statement one often hears—is not a fact. Many rich people frequent the Spa undoubtedly, but even the man of moderate means can afford to get treated at Harrogate. The fees for medical advice are usually £2/- for the first visit and £1/- for each subsequent visit. The ordinary " course " lasts three weeks and a visit to your doctor once a week is sufficient. Considering the fact that medical men at Harrogate have made a special study of the diseases concerned and have unique experience of the effects of the treatment, the expenditure of a matter of £5/- all told, on medical advice cannot be considered excessive. This, of course, does not include special examinations such as X-rays or detailed analysis of the urine.

The cost of the " cure " itself is also very reasonable, when we consider what value for money is received. Three baths a week and drinking waters every day cost about twelve shillings a week. If more elaborate treatments are necessary, the average cost of these is 25 shillings a week, the total cost of both medical attendance and treatment amounts to roughly £10/-. It will thus be seen that the treatment at Harrogate is meant only for the rich is a myth.

Preliminaries—It is essential that before treatment is begun, the best available medical opinion and advice should be obtained. As stated above there are several experienced medical men at Harrogate who will do all that is necessary and advise correct treatment. This takes the form of a programme for one week after which the patient reports to the doctor for further advice. Having armed yourself with the weekly prescription, you apply to the Bath authorities who issue tickets which have to be presented at whatever section you are expected to attend. The convenience of patients is studied as far as possible when fixing the time of the day for the various forms of massage, douches and baths.

Bath Attendants—No treatment would be of much avail if those who actually carry it out do not understand their job. At Harrogate one finds well trained bath attendants, who are efficient, willing and cheerful. They are careful without appearing to " molly coddle " you. Each attendant is an enthusiast in his own line. Even when he has to hurt you, some humorous remark takes away a good deal of the pain which is inevitable, if massage or douching has to " reach the spot."

The treatment—The main treatment consists of two parts:—

(1) Drinking of one or more varieties of waters, and

(2) Application of the waters externally by way of baths, douches or sprays, with or without some form of physio-therapy such as massage, electro-therapy and helio-therapy.

The waters produce effects according to their composition. Some act mainly on the bowels, some on the kidneys and some on the liver. Harrogate waters may be roughly divided into three groups, namely:—

(1) *The Sulphur Group* (*Hypertonic Saline Sulphur*)—These waters produce purgative, laxative, diuretic and "alterative" effect, according to the strength of the sulphur and salines contained. Sulphur waters taken internally are specially useful in the treatment of gout, chronic rheumatic arthritis and muscular rheumatism, in functional disorders of the liver and gall bladder, as well as in cases of intestinal toxæmia and maladies resulting therefrom.

The first action is a production of more or less watery actions of the bowels, the bulk being greater than normal. There is also an increased flow of bile and urine. During the period the water is taken, there is an increase in the amount of the solids excreted by the kidneys and by the skin.

The action of sulphur waters on the system may be summed up as purgative, antiseptic, cholagogue and a stimulant of the general metabolism of the body. After a few days of drinking these waters one has a feeling of lightness, general well-being and of all the physiological processes being "gingered up."

(2) *The Saline and Alkaline Groups*—These waters are used mainly to assist in eliminating the toxins from the various channels of the body, the intestines, the kidneys and the skin. They are given either in addition to the sulphur waters or alone, as is considered necessary.

(3) *The Chalybeate Group*—These waters contain iron. Being ærated, the waters are well borne by patients who are unable to take the ordinary preparations of iron.

Baths and Douches—In mild cases and for patients who only need a general "pick me up," a toning of the system, the drinking of the waters and the bracing climate of Harrogate would perhaps be all that is wanted. Thousands of patients visit Harrogate annually for this purpose and derive much benefit. But for those who have a definite lesion in the shape of stiffness of joints and chronic pain, the addition of baths and douches greatly helps and expedites the process of cure.

The water used in baths and douches is either sulphur practically undiluted or saline sulphur.

There are various forms of baths and douches, known by different popular names, such as Vichy douche, Aix douche, needle douche, undercurrent douche, effervescent and foam baths. The object is to increase the circulation of the body and to massage either the whole body or the affected parts. The result is complete relaxation of the body and a feeling of restfulness, surpassed by no other treatment.

A short note on some of the important "douches" may interest the reader who is not familiar with them.

Undercurrent Douche—The patient sits in a bath immersed up to his neck for about twenty minutes. The water is usually alkaline sulphur at a little over body temperature. A jet of water is then played on the affected part such as the lumbar region. This jet is played under water, under great pressure and at a high temperature. The douche acts as a combined fomentation and massage and is very soothing.

Peat Bath—This is a mud bath, modified according to requirements by the addition of mineral waters or brine to the mud. The body is supported by a compound of high specific gravity and muscular relaxation is obtained thereby. It acts in addition as a universal poultice. A local mud pack may also be given with the same material.

Foam or Effervescent Bath—This is the principle of the famous Nauheim Bath. Foam is produced by the introduction of CO_2 or oxygen or air into a solution of soap, the other bath containing only bubbles of CO_2 either in solution naturally or produced artificially. The bubbles of gas or air are in constant oscillation and impinge on the surface of the body producing an active cutaneous hyperæmia. This treatment is used for "heart cases" chiefly, but can also be prescribed as a sweating and sedative bath for rheumatic disorders.

Vichy Douche—This treatment is a great favourite, and rightly so. The patient lies on the table under high pressure sprays playing over the whole body which is massaged, special attention being paid to the affected part. The treatment is completed by the patient being cooled by cold showers, or kept

perspiring under a blanket or given the alternate hot and cold douche (needle bath).

By varying one or more of these baths and douches, the general effect on the vaso-motor system can be varied and the blood pressure raised or lowered according to the requirements of the case. The surface vessels being dilated, relieve any tendency to stasis in the deeper organs and the massage leads to a more rapid interchange between blood and tissue fluids. Massage by skilful men breaks down fibrous " nodules " thus relieving stiffness and the patient finds that the aches and pains have gradually disappeared and there is a general feeling of well-being.

The list given above by no means exhausts the different modes of treatment given at these Spas. Every known method is brought to the aid of the patient such as heat, electricity, diathermy, ionisation and so on. Intestinal lavage (Plombiere treatment) is one of the specialities of Harrogate and is carried out with care and efficiency.

Diseases suitable for Treatment

(1) " Chronic rheumatic " diseases—

Non-articular—Lumbago, sciatica, fibrositis, neuritis.

Articular—Arthritis of all kinds.

(2) Metabolic diseases—Gout, glycosuria, obesity, malnutrition.

(3) Circulatory diseases—Hyperpiesis, arterio-sclerosis, functional diseases of the heart.

(4) Disorders of the liver—Hepatic inadequacy, " alcoholic liver," cholecystitis, cholelithiasis.

(5) Digestive disorders—Functional disorders of the stomach.

(6) Intestinal disorders—Intestinal toxæmia, mucous colitis, chronic constipation.

(7) Chronic skin diseases.

(8) Nervous disorders—Neurasthenia, nervous breakdown.

(9) Anæmia.

(10) After-effects of tropical diseases.

Correct Diagnosis and Treatment

It is unnecessary to add that every case going to a Spa should be carefully examined by a medical man trained for the purpose, who alone should prescribe the appropriate treatment. Not every case of " lumbago " is a case of simple fibrositis, nor a " sciatica " merely a manifestation of chronic inflammation of the nerve sheath. In several cases an X-ray photograph reveals bony lesions. The existence of malignant disease is also not unknown in cases that may superficially appear to be " rheumatic." A thorough overhaul and careful investigation, if necessary by X-rays, are therefore necessary. Fortunately at Harrogate and other Spas one can find medical men possessing wide experience of the diseases mentioned and it is safe to place oneself in their hands. A complete medical history is a great help and should always accompany the patient, with such other aids as X-ray photographs (if recently taken) and results of chemical and bacteriological investigation of urine and fæces.

It affords much pleasure to the writer to add that members of the medical profession are cordially welcomed both by their colleagues at the Spa and the Spa authorities. No charge is made to medical men for treatment at the Baths. The authorities rightly state " there are no more confirmed advocates of this particular health regime than medical men who have experienced its benefits themselves." The writer gratefully confirms this statement. Not only did he receive a hearty welcome but the authorities afforded every facility to visit the different sections and study the methods employed.

Medical men who wish to advise Spa treatment to their patients have only to approach the General Manager, the Royal Baths, Harrogate (or any other Spa selected) and every information will be given them, including a list of members of the medical profession who could be consulted. If the writer can help any of your readers with further information, he will be very happy to do so.

I must repeat that this brief account of a visit to Harrogate is in no way intended to " boost " one place to the exclusion of others. I have already stated that there are other very good Spas in England and elsewhere. Harrogate is merely mentioned as a type, perhaps one of the best. That everything possible is being done for the alleviation of suffering at this Spa can be gathered from the fact that the corporation has sunk no less than a quarter of a million pounds in the Baths.

CLINICAL REPORT ON HEAD INJURIES FROM LABORATORY AND THERAPEUTIC POINT OF VIEW

KAPUR BASHESHAR LAL, M.D. (Berlin)

Lahore

Coal miners and motor-cyclists fall victims to head injuries very easily. I, while working in Zwickau, Germany, under Prof. Kulenkampf collected 100 cases belonging to those classes and tried to investigate them from the point of view of laboratory findings in order to simplify the treatment and to help Insurance Companies in the payment of compensations. The patients reached the hospital an hour or two after the injury. So the primary shock was over. After preliminary preparation the patients were lumbar punctured except those with compression symptoms. Next day the same was repeated and also a venesection was done and urine of 24 hours collected. The cerebrospinal-fluid was examined for uric acid, sugar, NaCl and bilirubin whereas blood was examined for the above and amino acids, cholesterin, calcium, alkali reserves, and non-proteinous nitrogen, creatinin and sodium chloride and urine was examined for urea, non-proteinous nitrogen and amino acids.

The lumbar puncture and the venesection were repeated according to the symptoms.

According to the clinical and laboratory findings the patients are divided into five groups:—

1. Light injury with slight shock symptoms and no unconsciousness.
2. Unconscious for a few minutes to half an hour; cerebro-spinal-fluid clear.
3. Unconscious for a long time with skull injuries; cerebro-spinal-fluid full of blood.
4. Patients with compression symptoms preded-ed by shocks and consciousness for a short time subsequently.
5. Patients with death at the point of injury.
   (*a*) Severe Shock.
   (*b*) Severe contusion of skull and brain.

Common to all the above groups, we have the shock symptoms which manifest themselves at the very outset of the injury. One feels a great weakness and numbness of the limbs, darkness before the eyes, vertigo and nausea. Some of them begin to vomit. There is fall of blood pressure in the beginning, cold sweatings and paleness of the face. Some gain strength soon and the others develop unconsciousness.

Group I. Thirty cases belonged to this group. The patients came to the hospital with a complaint of headache and vertigo after head injury and they were afraid of something serious happening. They could explain the type of injury; only two of them had a retrograde amnesia. On getting the injury there was usual numbness of the body, darkness of the eyes and slight vertigo. Eight of these had nausea and two of them vomited. After this slight shock they gained strength. So no unconsciousness prevailed. On examination a small wound or hæmotoma was found on the head. All the inner organs were healthy. There was no change in the blood pressure. Lumbar puncture showed a rise of pressure up to 160—170 mm. of water. The fluid was clear. and globulin and albumin tests were negative. Chemical examination of the cerebro-spinal-fluid and blood showed a slight rise of urea in cerebro-spinal-fluid and blood and the alkali reserves were diminished in blood by 5—10 below normal. Headache was better after lumbar puncture and venesection. On the third day there was usually great improvement. The urea in the cerebro-spinal blood was diminished. In about 10—30 days the symptoms cleared off, and the patients were discharged with constituents of blood and cerebrospinal-fluid in their normal ratio. Throughout there was no change in the urine. There was only one case where there was no change in blood and cerebrospinal-fluid, though the pressure of the fluid went up to 170.

Group II consists of twenty cases. The patients remained unconscious for a few minutes; the maximum period being 20—30 minutes. After that they felt sufficiently weak. Though they tried to get up yet they could not succeed because of increment of vertigo and nausea. Most of them looked pale and yellow. A great depression prevailed as if something

very serious had happened. On examination wounds were found on the skull and there was sometimes a very big wound on some part of the body. The blood pressure in some case was slightly increased. The other organs remained without any pathological findings except that the pupils were sometimes contracted and the reflexes slightly disturbed. The pressure of the cerebro-spinal fluid went up to 180—185 mm. of water and the fluid remained clear or was just tinged with blood. On microscopic examination a few lymphocytes and occasionally a few blood cells were found.

Chemical examination of blood contents showed in all cases increased urea up to 43 mg. per cent. In 13 cases the alkali reserve was diminished and in 5 cases there was a slight rise of blood calcium. In 4 cases there was a rise of bilirubin perhaps on account of the hæmotoma in muscles of the lower extremity. In the cerebro-spinal fluid there was increased urea in all cases and an increase of uric acid in 5 cases, rise of creatinin in 3 cases. In 10 cases there was a slight rise of sugar. NaCl was generally increased. In 5 cases there was a bilirubin rise.

Urine examination was throughout normal except in 3 cases where urobilinogen was present.

Group III. 35 of my cases belonged to this group. Usually the injuries of the miners and motor-cyclists are very severe.

Patients were generally delivered in an unconscious state and a few were restful while others showed signs as throwing of the limbs and crying, etc.

On examination big wounds were detected on the body as well as on the head. Sometimes I could detect palpable fractures of the skull; in other cases there were fractures of limbs. Blood could be seen coming out of the nose, mouth and ear. Hæmotoma of the orbits was sometimes visible. Respiration was snoring on account of blocking of the nose and the mouth. The pupils reacted little to light and the other reflexes were very much diminished or absent. The pulse rate was normal and blood pressure increased up to 170—180 mm. of mercury. Due to repetitions of lumbar puncture and venesection the symptoms improved. The patients regained consciousness the next day or after 55 hours.

Chemical examination. Blood urea increased even up to 80. There was a definite increase of uric acid. In 23 cases there was a slight increase of creatinin. In 30 cases there was a fall of alkali reserves by nearly 10. I could find in 11 cases rise of calcium; sodium chloride and cholesterin were increased in 29 cases; bilirubin increased in 20 cases; sugar and amino acids remained unaffected in all types of cases in all groups.

Cerebro-spinal fluid was highly blood stained. The pressure rose up to 280—300 mm. of water. Gold test was slightly towards the pathological side. Nonne and Pandy were positive. There was increase of urea in all cases and uric acid in 15 cases; rise of creatinin in 10 cases. There was a slight rise of sugar in 10 cases. NaCl was generally increased and there was a rise of bilirubin in 19 cases. Urine showed normal values of its contents except in 10 cases where urobilinogen was positive.

Group IV. After the usual symptoms the patients gained strength. After that they developed pressure symptoms, unconsciousness, coma, vomiting and vertigo. The pupils were in the beginning narrow and afterwards became wide. If the patients were not brought to the hospital at once the respiration became shallow, pulse went as slow as 20—30 per minute and ultimately the patient died. In this group bleeding occurs in the meninges.

The other group of compression fracture cases does not show these symptoms at once as there is no bleeding. The blood and cerebro-spinal fluid could not be chemically examined as the patients were rather serious.

Group V. In this group I have brought together the cases who die in shock or whose heads are so much contused that they are transported to the hospital with wide pupils, irregular pulse and shallow respiration. They die immediately on arrival in the hospital or live for 16—20 hours. The blood and cerebro-spinal fluid were in these cases also not examined chemically.

Treatment

Patients were put to rest for 4—6 weeks. After the usual stitching of wounds and managing the fractures, lumbar puncture and venesection were done. Cerebro-spinal fluid was taken out till the pressure decreased considerably. 100—200 c.c. blood was also taken out by venesection. In the course of treatment it was remarkable to note the decrease in blood urea, cerebro-spinal fluid urea and the other increased contents. The same was the condition of pressure of cerebro-spinal fluid and the blood pressure which proportionately came to normal. The constant symptom of headache disappeared after

lumbar puncture and venesection. Increase in the intensity of headache was a cardinal indication for repetition of these punctures otherwise the puncturing was found enough twice weekly.

The unconscious patients were fed with 40% glucose per rectum or intravenously drop by drop The restful and conscious patients were fed on usual healthy person's diet.

The patients of the first and second groups were discharged after 2—3½ weeks and those of the third group after 4-6 weeks. Their symptoms, especially headache, disappeared and the constituents of the blood and cerebro-spinal fluid came to normal. The compression cases (meningeal cases and compression-fracture cases were given operative treatment and were kept quietly in bed. Some of these cases complained of headache after sometime.

Five cases came up for insurance compensation and they complained of headache after nine months of their stay in the hospital. In three cases there was a rise of cerebro-spinal pressure up to 165 and blood urea up to 39—40. These were the cases who left the hospital on the 28th day of admission and their blood contents had not come quite to normal

The fourth case had to do heavy work after discharge and the symptoms recurred. There was rise of urea in blood and cerebro-spinal fluid and rise of pressure in the cerebro-spinal fluid.

The fifth case was pending. There was no rise of cerebro-spinal pressure and the constituents of the blood and cerebro-spinal fluid were normal. He would carry the heavy articles of the ward but did not like to work. He was given no compensation because when the blood and cerebro-spinal fluid are in normal state no symptoms like headache and vertigo are possible after head injuries.

I am highly indebted to Lt.-Col. AMIR CHAND for his very kind suggestions and the correction of language in the paper.

JOURNAL
OF
THE INDIAN MEDICAL ASSOCIATION

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In Memoriam.

The medical profession in India has sustained an irreperable loss in the death at the comparatively early age of 55 of Dr. Jatindranath Maitra, M.B., which took place early in the morning on Monday, the 7th October, 1935, at his Calcutta residence. He was a nationalist leader of the Congress, a prominent Councillor of the Calcutta Corporation, an eminent eye-surgeon and a Senator of the Calcutta University.

The late Dr. J. N. Maitra was born on December 7, 1880, at Jiberia, in Nadia. He passed the M.B. examination of the Calcutta University in 1904. Dr. Maitra, after a short probationary period of Government service, began life as an independent medical practitioner. His expert knowledge and amiable temper soon won for him a fame which not only spread throughout Bengal but all over India. His many informative articles on subjects connected with his profession, specially those on the diseases of the Eye gave ample evidence of his wide and intimate knowledge and his contact with progressive medical thought. His activities were, however, not confined to his profession alone. On the inauguration of the Montford Reforms in India in 1919, Dr. Maitra was elected a member of the newly formed Legislative Council from his native district of Faridpur. In the Council Chamber he always fought strenuously for nationalistic principles and liberal ideals. The services that he rendered to his country in connection with social, educational and political reforms were noteworthy. His support of the franchise for women, the sanitary improvement in villages, Government grants for the two universities of Bengal and retrenchment of Police expenditure makes him out as a politician who was always responsible to public opinion. As a visitor to the Faridpur Jail, he was the author of a masterly report on the treatment of the political prisoners there and it was his report which was responsible for the creation of an effective public opinion against the Government Policy.

As a fellow of the Calcutta University he was always in the fullest sympathy with the policy of expansion inaugurated by the late Sir Ashutosh Mukherjee. His contributions to the development of Post-Graduate studies in all its aspect gave ample evidence of the keen interest that he always felt for the progress of higher education in Bengal.

He was a Councillor of the Calcutta Corporation during the last eight years of his life, in which connection he rendered yeomen's service to the cause of Public Health and Sanitation in the city. He was for two sessions Chairman of the Public Health Standing Committee. He was all through his career as a councillor, a careful and keen student of the Municipal affairs of Calcutta and a tower of strength to the Congress Party of which he was an enthusiastic member.

He was one of the Secretaries of the Working Committee of the Fifth Session of the All-India Medical Conference held in Calcutta in December, 1928, and one of the prime movers in the establishment of the Indian Medical Association. For several years from its inception he worked as Treasurer and took an active part in its activities and deliberations.

We wish to convey our heart-felt condolence to the bereaved family.

ASSOCIATION NOTES

THE ALL-INDIA MEDICAL CONFERENCE XII SESSION, NAGPUR 1935

RULES FOR DELEGATES AND VISITORS

(1) All persons possessing Medical qualifications registrable in India are entitled to be delegates of the Conference, on payment of the following fees. Those medical practitioners who are already members of the Indian Medical Association directly or through its branches will pay Rs. 5/- as delegation fee each. Those Medical men and women who are not members of the Indian Medical Association will pay a delegation fee of Rs. 8/- each. Both these classes will be entitled to vote and take part in the Conference.

(2) Those who do not want to be delegates of the general Conference, may become delegates of the Scientific Section only on payment of Rs. 5/- each, and take part in the proceedings of the Scientific Section. Bonafide Medical students are entitled to be visitors to the Scientific Section as Student-visitors on payment of Rs. 2/- each as admission fee but shall not be allowed to take part in the discussions.

(3) Scientists who are not Medical men are also entitled to be delegates and take part in the Scientific Section on payment of a delegation fee of Rs. 5/- each.

(4) All moneys should please be sent by Money Order.

For further particulars please apply to the Secretaries, Medical Conference.

(Sd.) J. F. KARANI, L.M.S.
(Sd.) B. K. VINCHURE, B.Sc., M.B.B.S.
Organising Secretaries.

XII ALL-INDIA MEDICAL CONFERENCE, NAGPUR

RULES FOR THE SCIENTIFIC SECTION AND FOR SUBMITTING RESOLUTIONS

(1) Papers on all branches of Medicine such as Medicine, Surgery, Midwifery and Gynæcology, Pediatrics, Ear, Nose and Throat, Pharmacology, Anæsthetics, Pathology, Medical Sociology, Preventive Medicine, Biochemistry, X-ray and Radiology, Ophthalmology, etc., may be read at the Conference.

(2) Fifteen minutes will be allowed for the reading of each paper subject to extension of the time at the discretion of the Chairman.

(3) An abstract of the paper not exceeding 200 words should be forwarded to the Secretaries of the Conference before the 15th of November, 1935, to enable this office to get it printed in time.

(4) A type-written copy of the original papers should reach this office by the 1st of December, 1935.

(5) Arrangements will be made for projection, etc.

(6) The Journal of the Indian Medical Association will publish the accepted papers, and will furnish the usual number of reprints, unless otherwise instructed.

(7) The Committee of the Scientific Section reserve the right to suggest omission of or alterations in a paper, if considered necessary in the general interest of the profession.

(8) Resolutions:—Delegates or members desiring to move any resolutions will please submit a copy of the same, so as to reach this office before the 1st of December, 1935. Resolutions received after this date will not be taken into consideration except with the special written sanction of the President of the Conference.

(9) The Central Council of the Indian Medical Association and the Subjects Committee of the Conference reserve to themselves the right to require the omission or alteration of resolutions submitted, without assigning any cause for the same.

RECOGNITION OF INDIAN MEDICAL QUALIFICATIONS OUTSIDE INDIA AND THE DUTY OF THE INDIAN MEDICAL COUNCIL IN CONNECTION THEREWITH

K. S. RAY,
Secretary, Indian Medical Association.

The Indian Medical Council has now been in existence over two years and it may be of interest to recall that it was formed for two main purposes.

The first was to establish a uniform minimum standard of medical education among the various universities in India and secondly to secure reciprocal recognition of medical degrees between India and foreign countries. The first was a *sine qua non* to the second and that part of the ground has now been largely prepared by the laying down of a uniform minimum standard of qualifications for observance by all Indian universities. We understand that, excepting two, Andhra and Rangoon, all the rest have been recognised as coming well up to the minimum standard, and so the next question that arises is what action does the Council intend to take in regard to the recognition of Indian medical degrees in other countries and the recognition of their degrees in this. As a matter of fact, the issue, is mainly between India and Great Britain and a little recapitulation is necessary in order to appreciate the position as it now stands.

Since 1892 the Indian universities had enjoyed the right of having their medical degrees registered by the British General Medical Council. The rights conferred by registration were that the holders of Indian medical degrees could practise medicine, surgery and midwifery in Great Britain and Ireland, in certain parts of the British Empire and in certain foreign countries where British degrees so registered are recognised. Conditions after the War, however, when the number of Indians in the medical profession and teaching institutions increased enormously, Indians making their way even into the ranks of the Indian Medical Service, and when the direct control hitherto exercised by Government was relaxed as a result of the constitutional reforms, led to apprehension (engendered mainly, it is believed by British members of the I. M. S.) on the part of the General Medical Council as to the efficiency of the standard of teaching in Indian universities and in 1922 there developed a protracted controversy. An investigation resulted in the G. M. C. intimating that because of insufficient practical experience in Midwifery they would be obliged to discontinue their recognition of the medical degrees of all Indian universities, except Madras at the time, unless the defects were remedied and some guarantee were forthcoming that their minimum requirements would, in future, be fulfilled.

The G. M. C. stated they would continue recognition pending the formation of an Indian Medical Council if a Commissioner of Medical Qualifications and Standards in whom they had confidence were appointed. Col. Needham was accordingly appointed and occupied in this work from 1922 to 1927 during which period the recognition was not withdrawn, the universities being found fully up to standard, and there is no reason why the arrangement should not have continued. But, subsequently the G. M. C. considered that it could no longer negotiate with the universities in India individually and insisted on the appointment of a Commissioner as suggested above to be appointed by the Government of India to deal with the universities as a whole. The chief objection to this suggestion was that the medical institutions in this country would not tolerate the idea of a dictator, especially as the G. M. C. insisted upon the appointment of their own nominee, Col. Needham. It was also felt that no one person could be expected to combine in himself all the qualifications required for the post. The proposal was consequently thrown out by the Legislative Assembly, though a suitable counter-proposal was put up at the same time but not accepted by the G. M. C.

In 1930, therefore, the G. M. C. withdrew their recognition of Indian medical degrees. It served only to exacerbate feeling in this country as it was looked upon as a measure of retaliation, since there was nothing to suggest that the standard of medical teaching in the Indian universities had deteriorated to warrant such action. So greatly was the insult felt that, though some recalled that redress might be had upon appeal to the Privy Council, the privilege was never exercised.

The proposal to form an Indian Medical Council then took shape with a view to putting our own house in order and hopes ran high for a time, but these hopes were soon damped. The house was proposed to be put in order by excluding the largest number of medical practitioners, viz., the Licentiates; and the scope of the Council was restricted to the two purposes mentioned above and its composition was such as to do an injustice to the preponderating element of non-service Indian medical men, which raised the suspicion that the strength of the I. M. S. element in the Council constituted the hidden hand of the G. M. C. Moreover, despite the existence of the ban, the Indian Medical Council Act continued to accord recognition to British medical qualifications for at least four years and in fact the first appointee to the Secretaryship, and the Inspectorship as well, was what might be

called a nominee of the British G. M. C. His successor, the present Secretary—a member of the I. M. S.—against whom we advance nothing in person, but we regret the fact that both in his case and his predecessor the methods of making the appointment left much to be desired and hurt Indian susceptibilities by passing over the claims of Indians to fill this post. The combination of the posts of Secretary and Inspector also aroused severe criticism.

In the meantime, the destinies of India were being hammered out on the Round Table Conference and Parliamentary anvil and so far as medical matters are concerned it spells little change in conditions from those ruling before. In particular, the I. M. S., R. A. M. C. and medical officers of the Royal Air Force are entitled to practise in India by virtue of their commissions, although Indian qualifications are still under the ban of the G. M. C., which means that holders of Indian qualifications are denied the privilege of practice in the United Kingdom and colonies. Even if it be conceded that they (the I. M. S., R. A. M. C. and Air Force officers) should be allowed to practise by virtue of their commissions within the army sphere, to allow them unrestricted practice throughout the civil population in the country is hardly equitable while reciprocal treatment is denied to holders of Indian degrees.

In one respect we thought we had secured an advance. The Indian Medical Act provided that in the event of the Council refusing to recognise any foreign qualification an appeal would lie to the Governor-General-in-Council, whose decision would be final; but under the new India Act this right of appeal and decision is to be removed from the Governor-General-in-Council and given to the Privy Council in England, to that extent transgressing the principle of India's responsibility and self-government. We do not see, while granting an unbiassed attitude in the Privy Council, that that Council would be in a better position to decide such an appeal than the Governor-General-in-Council in India. The reasons adduced in the Joint Parliamentary Committee's Report are entirely unconvincing.

One may judge from these circumstances that the Indian Medical Council as at present established does not evoke much enthusiasm in Indian hearts. We are never greatly impressed with Sir Fazli Hossain's rhetorical outburst of " efficiency at home and honour abroad." The actual position is quite different and so far as the British G. M. C. are concerned we are under statute to grant recognition to British qualifications in India at least for the remaining period of four years specified in the Act, although they do not reciprocate in the same way. Nevertheless, Vol. I of the Report of the Joint Committee on Indian Constitutional Reform contains the remark " We hope that before the four years have expired, as a result of joint action between the two councils, the General Medical Council will have seen its way to restore its recognition of Indian diplomas, and that discussions may proceed between them free from political influence or bias and with the sole object of promoting the interests of medical education in both countries."

There is in this remark a broad hint and we wonder whether the General Medical Council of Great Britain has taken it. It is not necessary for them to wait until the four years specified in the Act have elapsed and we believe that in the course of its existence for nearly two years, the Indian Medical Council has found the standard of Indian medical education to be on a satisfactory level. For our part, we cannot easily forget the circumstances of the past. The attitude of the G. M. C. and their action in withdrawing the recognition continued for so many years before can only be regarded as humiliating and we do not wish to take any step or institute any measures, direct or indirect, that will humiliate us further. We have not heard that the British Council has given any sign of encouragement. In actual fact, its ban does not appear to have affected the position very much, as the outflow of Indians with M. R. C. P., F. R. C. S., and other higher qualifications is larger than before and, again, Indian qualifications are now admitted to the I. M. S. which was not the case before. Therefore, the ban has not proved a serious handicap and so it requires very careful consideration before we make an approach unless we are assured of a change of heart on the other side. Naturally one hesitates to add insult to injury by courting a refusal. At least, we being the aggrieved party, it is for the G. M. C. to make a gesture of goodwill, which might take the form of removing the ban without further delay or discussion.

Having regard to all these considerations, it is for the Indian Medical Council to take account of the feelings of the Indian medical profession as a

whole and of the Indian universities before committing themselves to any action and we sincerely hope they will not take any steps that will tend to lower the prestige not only of the Council itself but also that of the medical profession in India and the various Indian universities.

INDIAN MEDICAL ASSOCIATION

Bombay Branch

Bombay, August 13.

A meeting of the members of the Bombay Branch was held at the rooms of the Bombay Medical Union on the 6th May, 1935, to consider the question of reorganising the Branch, which had been inactive for a long time. As a result of the deliberations at that meeting a new Executive Committee for 1935-36 was formed and it was entrusted with the work of putting the Branch on proper footing. The following members form the Executive Committee of 1935-36.

President—Dr. Jivraj N. Mehta.

Vice-Presidents—D. D. Sathaye, K. K. Dadachandji.

Hon. Treasurer—K. K. Dadachandji.

Jt. Hon. Secretaries—Dr. Chamanlal M. Mehta, Dr. N. J. Modi.

Committee—Dr. Deshmukh, Dr. Erulkar, Dr. P. T. Patel, Dr. U. B. Narayanrao, Dr. S. V. Oak, Dr. S. S. Rau, Dr. M. D. Joshi, Dr. M. B. Thakore.

Representative of the Branch to Central Council—Dr. K. K. Dadachandji.

The Hon. Secretaries are sending round an appeal to the members of the Medical profession in Bombay to join the Bombay Branch.

Address of the Office—Raj Bhuvan, Sandhurst Road, Bombay.

(Sd.) C. M. MEHTA,
Secretary.

INDIAN MEDICAL ASSOCIATION

Barrackpore Branch

Barrackpore, 23rd Sept. '35.

To The Secretary,
Indian Medical Association,
(Bengal Provincial Branch).

Dear Sir,

I beg to forward herewith a copy of the resolution passed at a meeting of the Barrackpore Branch of the Indian Medical Association on 20-9-35 for your information.

"The members of the I. M. A., Barrackpore Branch assembled in a meeting unanimously resolved that they very strongly protest against the proposed measure of the Government of India to exclude the Medical Licentiates from the Indian Medical Council Act of 1932 in as much as the Medical Licentiates all over the province are the backbone of the medical profession and in majority of cases are the only source of medical help and relief to the people at large. Further, in times of necessity they have very readily answered the call of Government in and beyond India."

"This meeting very strongly urges the members of the Legislative Assembly to see their way to place the whole case of this Association fully before the Government and to have the Medical Council Act so amended that it may remove the proposed disabilities that are going to be placed against the Medical Licentiates."

Yours faithfully,
(Sd.) B. K. Ghosh,
Hony. Secretary.

FARIDPUR MEDICAL ASSOCIATION

"A meeting of the Faridpur Medical Association was held on the 10th October, 1935, with Dr. P. L. Choudhury, L.M.S., on the chair.

Members present:—Drs. P. L. Choudhury, L.M.S., S. R. Ghosh, B.Sc., M.B., A. C. Moitra, B.Sc., M.B., S. K. Ghosh, M.B., S. Bhattacharji, M.B., J. Chatterji, L.M.F., B. Guha Majumdar, L.M.F., J. N. Roy, L.M.F. and S. Sinha, L.M.F.

Resolved that this Association records its deep sense of loss at the untimely death of the renowned eye-specialist Dr. J. N. Moitra of Calcutta, Chairman of the Health Committee of the Calcutta Corporation, a prominent member of the Council of Bengal Medical Registration, and of Calcutta Medical Club. It also conveys its sincere condolence to the members of the bereaved family.

Further resolved that a copy of this resolution be sent to the eldest son of the late Dr. J. N. Moitra and also to the Indian Medical Association and to the English daily papers for publication.

(Sd.) Satyaranjan Ghosh,
Hon. Secretary.
Faridpur Medical Association.

THE BURMA PRIVATE MEDICAL PRACTITIONERS' ASSOCIATION

Rangoon

Copy of the Resolution passed at a meeting of the Medical Practitioners of Rangoon, held under the auspices of the Burma Private Medical Practitioners' Association, at Rangoon on Thursday the 25th July, 1935, under the chairmanship of Dr. Ba Yin, M.L.C., (late Education Minister with the Government of Burma):—

1. This meeting of the medical men of Rangoon, representing all classes and interests of the profession, protests against the new Poison Rules promulgated by the Government of the United Provinces of India, in so far as they become applicable to qualified registered medical practitioners. This meeting considers them as derogatory to the honour and dignity of the medical profession; and urges on the U. P. Government to exclude registered medical practitioners from the operation of these rules.

2. This meeting resolves that copies of the above resolution be sent to (i) the Government of the United Provinces of India, (ii) the U. P. Medical Council, (iii) the All-India Medical Licentiates' Association, (iv) the Government of India, (v) the Indian Medical Council, (vi) the Indian Medical Association, (vii) the Burma Medical Council, (viii) the Bombay Medical Council, (ix) the Madras Medical Council, (x) Bengal Medical Council, and (xi) the press.

261, Lewis Street,
Rangoon, 1st Aug., 1935.

Hon. Secretary,
Burma Private Medical Practitioners' Association.

MEDICAL ASSOCIATIONS, SOCIETIES ETC.

Medical Societies, Associations, Unions, etc., are invited to make use of this section of the Journal. — EDITOR.

BOMBAY OBSTETRIC AND GYNÆCOLOGICAL SOCIETY

At an Extraordinary Meeting and an adjourned Extraordinary Meeting of the Society held on the 21st and 27th August, 1935, the recommendations of the Medical Council of India on the proposed Medical Curriculum, particularly on the subject of Midwifery and Gynæcology were considered. Dr. Purandare, the president of the Society, was in the chair. After reading the recommendations of the Medical Council of India, he very strongly criticised the recommendations made and said that as there was not enough representation of the Obstetricians on the Council no proper consideration seemed to have been given to those subjects.

He objected first to the 3 months period fixed for the training in Midwifery and Gynæcology. The period was too short to impart enough training to the student to make a good general practitioner of him. All Universities in the United Kingdom and Ireland had for this training kept five to six months. Even the representative committee appointed in England to revise the medical curriculum and which published their report this year, after three years' deliberations, recommended six months' training in Midwifery. The second point objected to was fixing the minimum number of labour cases to be conducted by the student to five. The President thought it was ridiculous to think that after conducting five cases one would be able to take up the responsibility of taking charge of Obstetric cases in practice. Nowhere the minimum laid down was below 20 cases to be conducted under adequate supervision. The result of this would be to turn out incompetent, and inexperienced general practitioners. Because there were difficulties in other provinces to get sufficient number of cases, he did not think it was fair to lower the standard of all Universities. Thirdly, it was impossible, he said, to conduct clinical examination in Gynæcology. This will not be practicable and it was not necessary either. Such a practice did not exist anywhere else.

On the subject being opened for discussions, Dr. Mangaldas V. Mehta traced the growth of the Midwifery training in Bombay since 1921. He said the 1st Midwifery Commission visited Bombay in 1921. At that time the Bai Motlibai was the only Hospital training students in Midwifery and by regulation the student was required to conduct six cases and witness six. On this, the Commission made a report that the training in Midwifery in Bombay was deficient and unless facilities of getting more cases to the students were made available recognition of the Bombay University by the General Medical Council should be withdrawn.

At the end of intensive efforts to increase the facilities. N. M. Wadia Maternity Hospital, came into existence and Municipal Maternity homes and Cama Hospital were opened to students to take their cases. The second Commission visited Bombay in 1927 and Sir Norman Walker reported that satisfactory arrangements were then available to grant the recognition.

Now in 1935 to say that 5 cases were enough for a student to conduct under supervision and three months' training was enough, was definitely a retrograde step. Our Graduates would be far below the standard laid down by the other Universities and they would stand unfavourably in competition. He thought this was only a thin end of a wedge. Clinical examination in Gynæcology was not practicable. He asked the Society to protest strongly.

Dr. Chamanlal Mehta pointed out that the framers of the rules had not taken trouble to understand the different practices followed by the Universities of the United Kingdom and Ireland and had tried to copy rules from them. If one looked at the wordings of the recommendations regarding the minimum number of cases to conduct one felt that there was a scope to interpret the rule that a student had to conduct 20 cases, five of which under supervision in a Maternity Hospital while the rest 15 anywhere else. A practice in Dublin was that after taking 5 cases in a hospital, a student took 15 cases in the District. But in India this District service did

not exist and hence it was necessary that all the 20 cases should be taken in a hospital. The President and Dr. Mangaldas Mehta both said that the interpretation put forward by Dr. Chamanlal was not correct as the Bombay representatives on the Medical Council had made it clear at an University meeting that the rule required only 5 cases to be conducted.

Dr. Jhirad said that when she visited England recently she was permitted to be present at practical examination, and she did not find any clinical examination in Gynæcology. She thought the Medical Council was autocratic in not consulting the Universities before adopting the new curriculum. She would strongly protest against it. She was rather taken aback to find the new curriculum was a retrograde step. On the one hand we spoke of high maternal mortality due to inefficient training in Midwifery and on the other the Medical Council was making the teaching and training in the subject more inefficient by reducing the number of cases to be conducted and shortening the period of practical training. A general practitioner in the country was called upon to do a lot of maternity work. If the new curriculum was adopted this Medical Service would deteriorate. They must give the student sufficient training to go out in practice with Conference.

Dr. Mangaldas moved the 1st resolution.

Dr. Mrs. Dadabhai seconding it said that if the new curriculum was adopted the standard will be so low that our graduates will have to go to foreign countries to enable them to compete for services in the country. At some places besides 20 cases to be conducted the regulation required application of forceps twice and two months' district service.

The resolution when put to vote was carried unanimously.

Lt.-Col. Spackman moved the 2nd resolution and commended the house to carry it unanimously. He said it was simply foolish on our part if the Society countenanced such recommendations of a retrograde nature. Even 25 years ago when he took training he conducted six cases in the Hospital and 30 cases in the District in the East End of London. If it was so 25 years ago he was surprised to find the Medical Council of India going back on what was already in practice.

Dr. Jhirad seconded the resolution.

When put to vote it was carried unanimously.

Dr. Mrs. D'Monte moved the 3rd resolution.

Dr. N. N. Ajinkya seconded it.

Carried unanimously.

Resolutions passed:—

(As per copy enclosed herewith).

Resolution adopted by the Bombay Obstetric and Gynæcological Society at its Meeting of the 27th August, 1935.

1. The Bombay Obstetric and Gynæcological Society believes that the recommendations made by the Medical Council of India in respect of the training of students in Midwifery, Gynæcology and Infant Hygiene are defective and inadequate, inasmuch as the prescribed period of three months for practical work in Midwifery and Gynæcology and fixing the minimum number of labour cases to be conducted by the student at five, are not at all sufficient to give the student enough knowledge on the subject, as a general practitioner is expected to possess.

2. The Society is of the opinion—

(a) That the period of practical instruction in Midwifery and Gynæcology should extend over a period of six months, instead of three as recommended by the Medical Council of India.

(b) That the minimum number of labour cases conducted personally by the student under adequate supervision in a recognised Maternity Hospital should be fixed at twenty instead of five as prescribed by the Medical Council of India.

(c) That it will not be practicable to conduct Clinical Examination in Gynæcology.

3. This Meeting requests the Hon. Secretaries of the Society that copies of the resolutions passed at this Meeting should be sent to the following:—

(1) Medical Council of India.

(2) University of Bombay.

(3) The Bombay representatives on the Medical Council of India.

(4) Other Universities of India.

MEDICAL NOTES AND NEWS

INDIAN STUDENTS ABROAD

" The Associated Press " has obtained the views of the Vice-Chancellors of practically all the Univerities in India on Dr. Thomas Quayle's report on ' Indian students abroad.'

It will be remembered that Dr. Thomas Quayle, Educational Department of the Office of the High Commissioner for India, in his report on Indian Students Abroad, made out a strong case for restricting the number of students going abroad for higher studies from India and urged that the Universities should make it a point to explore the possibilities of finding employment for the foreign returned students.

Duty of Parents

The concensus of opinion is of the emphatic view that parents should use a little more discrimination in deciding to send their children abroad for higher studies, only students of above average intelligence and cleverness with financial backing should undertake foreign trip, that before deciding on going abroad for further studies they should consult the foreign bureaus attached to the Universities and that students as far as possible should not look to Government employment only but be independent and try to take to business.

Mr. Justice Khwaja Mahammed Noor, Vice-Chancellor of the Patna University, says:—

" But something more is needed and that is the growth in India of a sound and strong public opinion that a young Indian student can best serve his own interest and that of his motherland by staying in his own country unless and until there is a very real need for him to go abroad for further study or training or for intellectual stimulus.

" On principle there cannot be two opinions that it is needless to go abroad for obtaining what can be obtained in India itself and also that students, who are not of high intellectual attainments, should not go to foreign countries for obtaining a poor degree which will not be of very great value to them when they return to India as they will have to compete with students who have had a very distinguished and brilliant career in Indian Universities. It is also a patent fact that unemployment among the educated youths is increasing every day. In this respect a young man with foreign training suffers more as his standard of living being higher he expects higher pay. Apart from this if our best students go abroad the level of those that remain behind is bound to suffer.

Who should go

" I entirely agree with the principles enunciated by Dr. Quyale that as a practical proposition of many years to come going abroad of Indian students is inevitable, the reason being that it will take many years before higher training in all branches of study can be made available in India and, secondly, the visit to foreign countries and travelling abroad has its own educative value, and in some cases employers prefer a man who has had his training abroad provided that the training he has received is of high order.

" I am, therefore, of opinion that students should go abroad after taking fullest advantage of the education which is available in this country and, secondly, very first class students should go abroad who can come back with first class degrees when alone they can expect to compete with the students who have stayed at home and have distinguished themselves in the Indian Universities."

Rangoon Vice-Chancellor

U. Set, Vice-Chancellor of the Rangoon University, says:—

" The question suggested by Mr. Quayle is answered in the negative. Except for those who are already equipped to benefit by advanced training or research work for which facilities have not as yet been provided in the Universities in India and Burma there should be no necessity for Indian or Burmese students to go abroad. In my opinion, ninety per cent. of the students now in Europe and America should not have been sent there. Their stay in Europe and America would simply mean so much time and money wasted without any commensurate benefit to themselves or India and Burma."

Dr. P. Basu

Dr. P. Basu, Vice-Chancellor of the Agra University, says:—

"I doubt whether any University in the world has ever undertaken or can ever undertake the solution of the problem of unemployment. It is more a question of opportunities for careers than merely of training and education.

"I emphatically disagree with the recent popular view that Universities are responsible for this state of affairs. Rather they are equally victims of the situation."

He adds large scale works in India, in spite of the recent progress, are too few to absorb all the trained young men. And except in such works no technically trained man can succeed if he is ignorant of economic and commercial aspects of the trade which he desires to pursue. Because of this lag between technical training on the one hand and economic and commercial training on the other, the products of our vocational and technical institutions have failed to succeed in life although some of the latter, so far as technical training is concerned, are admirable institutions.

Varsities and the Unfit

Another reason why numbers of the unfit tend to increase in Universities is the bad financial condition of the latter.

Concluding, he says compared with the large numbers of the population and the vast natural resources of the country such openings are at present extremely rare for a variety of reasons over which universities have little control.

Mr. V. N. Chandavarkar, Vice-Chancellor of the Bombay University, observes:—

"The report revealed a very serious situation and it was time that parents of the boys who are going abroad for further studies realised the urgent necessity to use a little bit of discrimination in deciding to send their children abroad for higher studies.

In his opinion the time was when Indian students had to go abroad for specialising in scientific and technological subjects. The highly scientific courses instituted in the Bombay and Calcutta Universities, the Indian Institute of Science at Bangalore and the Technological Department of the Bombay University, in his opinion, provided all basic courses of studies both in scientific and technological subjects.

Many need not go

The Indian students of to-day had the opportunity of specialising in these subjects in India and he needed going abroad only if he wanted to pursue highly specialised studies in a particular branch of science or technology. To that extent, he maintained the need for Indian students to go abroad for higher studies had been reduced. Apart from the value of foreign travel he saw no reason why so many students should flock to foreign countries for higher education.

There were students who were of the average type with average means and it was these students who were often stranded in foreign countries. In the first place, the parents often failed to furnish them with the necessary finances and they found themselves helpless. There were also cases where students left India in the expectation of someone helping them but in the long run they found themselves stranded.

Drain on Country

The Vice-Chancellor thought students having failed to pass through special examinations generally fall back on the slender resources of their parents. This was not only adding to the unemployment of Indian students but was a regular drain on the country. He wished that parents would realise the gravity of the situation and exercise a little more discrimination in deciding to send students abroad.

He was of opinion that only students of extraordinary brilliance should make it a point to go abroad for higher studies if their financial resources were not very encouraging. The well-to-do could always go and they would never become a problem to anybody.

Dacca Vice-Chancellor

Mr. A. F. Rahman, Vice-Chancellor of the Dacca University, said that he was not in agreement with the concluding portions of Dr. Quayle's report. While he agreed that some students went to foreign countries without any definite idea of what they proposed to do, he maintained that such students were generally those who had their own resources and did not worry about employment.

"But I am of opinion," he adds, "that the large majority of Indian students proceed to foreign countries

because there is that urge in them to do advanced work and because also they feel that the possession of advanced degrees awarded by foreign Universities enhance their value."—" I do not think that the number of such students should be restricted or can possibly be restricted. Assuming that an effort should be made to retain these students in India by giving facilities for advanced work in India, it cannot be disputed that the resources and traditions of foreign Universities are larger and more well established and that India benefits by contact with these Universities."

From the point of view of cultural development of India also, the Vice-Chancellor maintained, it was necessary that this contact should be maintained. It could not be denied that the position that India occupied to-day in the world of letters and science was chiefly owing to the efforts of those who had received education and training abroad.

Madras view

Mr. R. Littlehailes, Vice-Chancellor of the Madras University, thought that a very large number of students went abroad for further studies in spite of the fact that there were facilities in India for such studies. Several of these went without consulting the Students' Information Bureau which existed for the purpose of advising the students and their parents. The result was that a large number of students left India, who either ought not to have left or need not have left.

With reference to the need for finding out employment, the Vice-Chancellor said that a large number of students who studied at a University had as their main object in life appointment in Government Service. The number of available appointments was infinitesimally small as compared with the number of University graduates who desired such employment.

It was not generally recognised that University education was costly and that parents of mediocre means could not afford to give such education to their children unless the child had the ability well above the average which would enable him to meet it by obtaining scholarships. If only abler students and those whose parents were in a position of relative affluence took to University education, the Vice-Chancellor thought, the problem of unemployment, if at all it arose, would arise at the end of school rather than at the end of University course.

Mr. S. P. Mukerjee

Mr. Shyama Prasad Mukherjee, Vice-Chancellor of the Calcutta University, thought that the problem of advising Indian students on their future studies should be dealt with in a more systematic manner. If it was to be thorough, it should begin in India before the students proceeded abroad. Every student proceeding abroad should have his plan of work carefully examined by the Students' Information Bureau and his application for admission into a foreign University ordinarily forwarded through its Secretary. While admitting that direct applications for admission had often led to better results, he saw no reason why satisfactory results could not be obtained if the respective bodies, namely, the Students' Information Bureaus, the foreign Universities and the High Commissioner's Office worked in harmonious co-operation.

He also saw no reason why the High Commissioner for India through his Education Department should not help the students to get into Continental institutions and looked after the welfare of Indian students studying there. Every educational authority in India would agree with the view expressed by Dr. Quayle that students should proceed abroad for study only in respect of subjects for which no adequate provision existed in this country. The standard and equipment of the Indian Universities should be such as to render it unnecessary for an Indian student to go abroad for the completion of his ordinary educational career. He would go further and say that the Indian Universities should provide for higher teaching and research in various branches in such a manner as meet the higher aspirations of the Indian students. After having taken full advantage of the training available in this country he should be encouraged to visit foreign countries for the completion of his work.

Foreign Travel

While he did not want to minimise the value of foreign travel, which by itself was an education of great value, he thought it was a luxury which could not be enjoyed by ordinary students. In this connection he suggested that educational tours for Indian students should be organised in foreign countries. Indian Universities and Government should combine in making the scheme a reality.

Rai Bahadur Ram Kishore, Vice-Chancellor of the Delhi University, after paying a tribute to the

remarkable achievements of the Indian students said "is this exodus of so many young men of India to foreign countries still necessary? It would appear that a considerable number of young men proceed abroad every year, who have neither the financial means nor the mental equipment and capacity to profit by their sojourn in foreign countries. These should not only be discouraged but stopped, if possible, from wasting their resources and time in a fruitless endeavour. The problem for the rest is difficult indeed. It is true that Indian Universities can and are playing their part by raising their standards and by providing the necessary facilities for higher and advanced work in all branches. But so long as our Universities receive their inspiration from British culture and learning and the British Universities serve as prototypes for us to copy, the Indian Universities, however well equipped they are and however high their standard is, may not fully satisfy the intellectual ambition of our brilliant students."

Practical Training

Another cause which was largely responsible for the exodus of Indian students abroad was the inadequate facilities offered by the Indian Universities for professional and industrial study and training.

While he was unable to give any clear-cut suggestion to meet the problem of unemployment, he thought " it would be a poor solution indeed, if we stopped or reduced education to prevent unemployment; for its satisfactory solution depends as much on administrators and politicians as on educationists."

Dr. E. P. Metcalfe, Vice-Chancellor of the Mysore University, agreed with Dr. Quayle that the tendency among Indian students ought to be to take fullest advantage of the higher educational facilities available in their own country before going abroad for still higher studies. For years he had been advocating that Indian students should exhaust educational facilities in this country before going abroad. At the same time for certain professional and technological courses, the Vice-Chancellor thought, it was necessary for them to go to other parts of the world. During the last twenty-five years excellent arrangements for higher studies had been made in Indian Universities and practically every University in India now maintained active research departments so that there was very little need for Indian students to go abroad for post-graduate studies and research in most of the departments of art and science. At the same time it was desirable that men of sufficient maturity should travel abroad in order to gain experience and form contacts with workers in other countries.

Regarding unemployment he said one of the main reasons lay in the absorption of the bulk of medical, engineering and educational professions in the Government services. So long as these professions remained strongly departmentalised, and until the number of private practitioners increased and became widely distributed throughout the country, he thought, the outlook for educated young men was not very bright. The public should get rid of the idea that opportunities for the professional men lay only in Government services and people should become accustomed to employ private practitioners in medical, engineering and educational fields much more freely.

Associated Press.

MISSION MEDICAL COLLEGE

£1,600,000 Scheme

An ambitious scheme to establish a medical college under the aegis of the Christian Missions was put before the 24th Session of the Bombay Representative Christian Council.

The scheme as drawn up by the Bombay branch of the Christian Medical Association is estimated to cost £400,000 in buildings and £1,400,000 in endowment.

The report which contained this scheme was submitted to the session and stated that the movement towards union seen in all departments of the Christian missionary activity was also evident on the medical side. The Sir William Wanless Tuberculosis Sanatorium at Miraj which accommodated over 100 patients was fully equipped and self-supporting. Although the Association did not intend to appeal for funds, it hoped that the necessary money would be forthcoming.

Besides the report of the Christian Medical Association, the Conference also adopted the second annual report of the Christian Rural Uplift Conference held at Sangli on September 4 and 5. The Conference also welcomed suggestions for the reorganization of the National Christian Council with a view to

bringing it in line with Indian Christian thought and forces engaged in Christian effort in India.

Before the conclusion of the Session, Rev. E. Fairbank was elected President of the Council for the ensuing year. —*Associated Press.*

EPIDEMIC DROPSY DISCUSSIONS AT THE BRITISH MEDICAL ASSOCIATION CALCUTTA BRANCH

Under the auspices of the Calcutta Branch of the British Medical Association discussions on epidemic dropsy were held at the Lecture Theatre of the Calcutta School of Tropical Medicine on Friday, the 14th December, 1934, and on Friday, the 11th January, 1935. On the first day of discussion there was a record attendance of the medical practitioners of the city, so much so that there was not even sitting accommodation available in the large Lecture Theatre.

On the first day, Lieutenant-Colonel A. D. Stewart, Director of the All-India Institute of Hygiene and Public Health and one of the vice-presidents of the branch, presided. The discussion was opened by Dr. U. P. Basu who traced the evolution of the ætiology of the disease and dealt with its treatment. He was followed by Dr. M. N. De who gave a lantern demonstration of coloured plates from the pathological findings and by Lieutenant-Colonel E. W. O'G. Kirwan, who described the ocular findings of this disease.

Dr. U. P. Basu said: This disease first appeared in Calcutta in the winter seasons of 1877—78—79—80. In the same year it was imported to Assam and Mauritius by coolies who had gone there from Calcutta. The outbreak was limited to particular quarters of Calcutta and the death rate was high. The famous I. M. S. officer, Colonel Kenneth McLeod, who was at that time occupying the chair of clinical surgery at the Calcutta Medical College, thought that it was a disease *sui generis*, and noted that in this disease the nerve symptoms were completely absent. He was of opinion that it was a different clinical entity from beri-beri and gave it the name 'epidemic dropsy,' as the two leading manifestations were its epidemic nature and the presence of dropsy. Indeed no better name could be given and during the half century that has elapsed since McLeod's time there have been vigorous attempts by eminent scientists to merge this disease into beri-beri, but McLeod's 'epidemic dropsy' has outlived all criticisms, and stands to-day recognized as a special disease.

The second outbreak occurred in Calcutta in 1901. This was small and affected a few houses only. The next severe epidemic occurred in Calcutta between 1907 and 1909 and began in July. It rapidly spread from Calcutta to Howrah and thence to the neighbouring districts of Bengal. Lieutenant-Colonel E. D. W. Greig made a special study of this disease and thought that it was a deficiency disease resembling ship beri-beri. The late Sir Pardey Lukis who was at that time Principal of the Calcutta Medical College held that it was a form of angioneurosis. Simultaneously Sir John Megaw studied Anglo-Indian cases in the Presidency General Hospital and concluded that it was a form of beri-beri and the cause lay in a poison which was developed in the rice during the hot and rainy season by micro-organisms. While the I. M. S. officers were searching for the cause of this disease, the independent medical profession of Calcutta was not sitting idle. The late Dr. Satya Saran Mitra, an eminent physician of the city, studied the disease in Howrah and came to the conclusion that the cause of the disease was adulterated mustard oil. He supported his theory by observing that the Europeans and Marwaris do not suffer from this disease as they do not take mustard oil. About the same time Rai Bahadur Dr. Hari Nath Ghose, another distinguished city physician, thought that the epidemic was due to infection of rice by a fungus which probably changed the protein constituents of rice into a product like histamine which was the cause of vaso-dilatation and local œdema. He published his observations in the Calcutta Medical Journal in 1909 and 1910.

Since 1910 numerous small outbreaks have occurred in Calcutta, Howrah and in other districts of Bengal from time to time. In 1925 Lieutenant-Colonels Acton and Chopra confirmed Sir John Megaw's view that epidemic dropsy and beri-beri are different clinical aspects of a toxic syndrome caused by the ingestion of poisonous bases formed in the rice by a spore-forming proteolytic bacillus of the bacillus vulgatus group. They further observed that hypo-adrenia in particular and hypothyroidism to a lesser extent increased the susceptibility. Then came the largest epidemic of 1926. When the city was in the grip of the fearful epidemic in October, 1926 the independent medical practitioners of Calcutta met at a conference at the Calcutta Medical Club to discuss the nature of the outbreak. Dr. U. P. Basu remarked

at the conference that epidemic dropsy was altogether a different disease from beri-beri. It was neither due to avitaminosis nor to poisonous bases formed in rice but that the dramatic outbreaks of this disease in large epidemics, accompanied with fever, having a clean-cut clinical picture, pointed to some acute infection being at the bottom of this disease (vide Calcutta Medical Journal, October, 1926). In 1927 ACTON and CHOPRA further investigated the disease and held that the œdema was due to capillary dilatation giving rise to increased transudation of fluid into the tissues. Sections of the skin showed increased vascularity in the subpapillary vascular plexus, the vessels were easily seen and round them there was an exudation of lymphocytes and epithelial cells. Side by side with this vascularity there was œdema which separated the white and elastic tissue fibres of the corium. The enormous increase of vascularity of the subcutaneous fatty tissue and the dilated vessels suggested nevoid tissues. In September 1932, a further discussion was held amongst the independent practitioners of this city at the Calcutta Medical Club in which Dr. U. P. Basu stressed the infective origin of this disease on account of its sudden onset, short incubation period, early prostration and the presence of fever. He suggested that at least in the severe types it was very probably a streptococcal infection manifested by progressive anæmia, troublesome diarrhœa, and a tendency to hæmorrhages, such as epistaxis, hæmatemesis, metrorrhagia, bleeding piles and even hæmorrhagic retinitis. In some of these cases the clinical picture was that of septicæmia. Dr. Basu believed neither in the rice-intoxication theory nor in the adulterated mustard oil theory, because he was convinced that many well-authenticated cases of this disease could be collected where the disease broke out among the members of a particular household or among the inmates of a particular room in a mess, when a patient infected with the diseae was admitted to the particular house or room, although the source of rice supply remained the same immediately before and during the outbreak of the disease. In 1934 another epidemic broke out and instead of being limited to Bengal as before it spread to many healthy towns of Behar and the United Provinces. In Benares the disease has affected the Bengalees severely, but not the other rice-eating communities, although the source of rice supply to the Bengalees and non-Bengalies remains the same. The rainy season has always been invoked in the ætiology of this disease in order to establish the deterioration of rice due to damp storage, but the first appearance of the disease was in the winter months of 1877, Again, in 1922 there were 83 inches of rainfall in the city of Calcutta and the whole of the district of Kidderpore was flooded but epidemic dropsy never broke out in that year. The vitamin deficiency theory has already been exploded, nor can the adulterated vegetable ghee theory hold place in the ætiology of this disease, because unimpeachable evidence is available that it is rampant in families which consume the best food-stuff available in the market.

Of all theories of intoxication the one propounded by Rai Bahadur Hari Nath Ghose, namely, that of histamine poisoning, appeared to be reasonable, as it explained to a great extent the pathological lesions seen in this disease, but the great drawback of this theory is that it did not explain the dropsy that is present which is its cardinal feature. According to Samson Wright, Professor of Applied Physiology in the University of London, œdema of the tissues that can be demonstrated by pitting on pressure is not evident in histamine poisoning. Schittenhelm and Schlecht investigated an outbreak of œdema in the labour corps attached to the German army and proved that protein starvation was at the root of the epidemic œdema. We have also seen that administration of proteid food materially benefits the condition. The question therefore naturally arises in one's mind, is epidemic dropsy due to infection on the top of hypalbuminosis of the blood serum? The question cannot be answered unless the protein content of the blood serum is investigated in a large number of cases.

Study of the biochemistry of this disease has shown deficiency in the calcium content of the blood serum. It is worth while to study the cholesterol content of the blood, as CANNON, after two years' research in Hongkong on 600 cases of beri-beri with 80 necropsies, found low cholesterol content of the blood.

Treatment—Whatever may be the ætiology of this disease, change of soil, especially change of climate, materially improves the condition. I have known desperate cases verging on death and carried by stretcher to health resorts markedly benefited simply by the change. No medical treatment was carried on in such cases, but rest in bed in healthy climates improved the condition. The next factor is the addition of animal protein to the diet. The addition of meat and eggs to the diet is certainly

helpful, and the administration of calcium in any form is beneficial.

In 1930 Lieutenant-Colonel Chopra and Dr. U. P. Basu found out that the tincture of ephedra prepared from the Indian species, by virtue of its containing larger quantities of dextro-rotatory isomer pseudo-ephedra and comparatively less ephedra, possesses the property of stimulant action on the musculature of the arteries and a powerful stimulant action on the myocardium; the small quantity of ephedrine exerts its vaso-pressor effects through the vasomotor nerve endings and consequently stimulates the acceleratory mechanism. Our observations were confirmed by Lieutenant-Colonel E. H. Vere Hogde in his article in the Indian Medical Gazette on this subject in November 1931 and by Lieutenant-Colonel Chopra himself and Dr. Sunil Chandra Bose in an article on the subject in the Idnian Medical Gazette in November 1933.

On the second day of the discussion Dr. U. P. Basu, one of the Vice-Presidents of the branch, presided and many leading medical men took part in the discussion. Rai Bahadur Dr. Hari Nath Ghose opened the discussion and emphasized the probability of histamine intoxication as being at the root of the disease. Dr. Sarat Chandra Dutta of Howrah said that during the course of his practice extending over nearly half a century he had been a stalwart supporter of the rice theory but that with his advancing years and wider experience on the subject he did not think that rice has any place in the ætiology of this disease. Dr. E. Muir described his personal experience of an outbreak in Purulia in the district of Manbhum and emphasized the importance of deteriorated rice in the ætiology of this disease. Dr. Coltman of the Presidency General Hospital remarked that he studied the disease amongst the Anglo-Indians in the Presidency General Hospital in 1929 and came to the conclusion that it was of an infective origin; he quoted the findings of Major Shanks, the Professor of Pathology, Calcutta Medical College, who from post-mortem examinations in epidemic dropsy cases thought that the disease was caused by infection. He also quoted Lieutenant-Colonel Boyd who fed monkeys with samples of diseased rice said to have caused the disease but failed to produce the disease in them. Lieutenant-Colonel Kirwan next read a report of the chemical examination of fluid removed from the eyes of patients suffering from glaucoma seen in this disease. Dr. Muir asked Lieutenant-Colonel Kirwan if any control examination of fluids removed from normal eyes had been made. Dr. Basu then wound up the discussion by thanking the distinguished audience for the interest they had evinced and his colleagues who had taken part in the discussion for the new light that they had thrown in the matter. Dr. Basu confessed that up till now we have conceived many theories but have not succeeded in bringing to light anything. Lieutenant-Colonel Kirwan's isolation of histamine from the glaucoma fluids in these cases is a distinct advance on the subject. We all know that the symptoms of shock appearing after injury are due to the liberation of histamine from the tissues, so that, as Lieutenant-Colonel Kirwan has himself said, it remains to be seen whether the histamine isolated is primary or secondary. The difficulty, however, with histamine is that it cannot explain the œdema. (The President was interrupted by Rai Bahadur Hari Nath Ghose, an advocate of the histamine poisoning theory, who said that œdema was due to secondary infection on the top of histamine poisoning). Replying to Dr. Muir, Dr. Basu said that the disease first broke out this year is a virulent form in Purulia and if infected rice were the cause why should this disease occur particularly this year and in an epidemic form. Could it be possible that the rice remained innocent all these years and suddenly deteriorated this year all over the place to produce an epidemic?

(*I. M. G.*, September, 1935).

PREVENTION OF EPIDEMIC DISEASES

Dr. J. Inoguehi, Chief of the section on Prevention of Epidemic Diseases of the Metropolitan Police Board, has reported with regard to the preventive measures applied by the central and local governments throughout the country. The number of epidemics introduced from abroad has decreased remarkably of late. There was an outbreak of 205 cases of cholera in 1929, but since then no cases have occurred except four cases in 1932. Only 1,032 cases of small-pox have occurred during the last five years. Typhus still appears in some north-eastern provinces, but not more than twenty cases at a time. Epidemic encephalitis also has decreased, but every year about 300 cases appear. On the contrary, dysentery, typhoid and paratyphoid still continue to rage every year to the number of 30,000 or 40,000 cases. Scarlet fever and diphtheria have suddenly increased of late. In 1930 there were 24,582 cases, including both diseases,

but in 1934 there were 46,801. Totals for the last five years have been—cholera 4, dysentery 172,432, typhoid 197,267, paratyphoid 25,952, smallpox 1,031, eruptive typhus 38, scarlet fever 50,030, diphtheria 120,249, encephalitis 2,352.

The police try to find the cases early. They have been instructed to follow up the rumours of neighbours, never fail to visit a house where the doctor goes to see patients, closely investigate the family condition of houses where much ice is used, and make an investigation where odours of disinfectants prevail. If students, clerks or workers who leave their houses regularly through the year fail to appear, an investigation should be made. Police who discover a case are given a prize. In 1934, 466 policemen were rewarded for discovering patients.

Since 1924, the board has performed typhoid vaccinations on more than 1,500,000 persons. Of those vaccinated, 1,661 persons contracted typhoid. The effect of this vaccination has been more effective as years pass, in spite of much opposition.

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STANDARD TECHNICAL MEDICAL TERMS

The Japanese Language Society, which was formed in 1932, has established a section on medical terms. This section is to endeavour to unify the technical terms in medicine of this country. Through lack of uniformity in medical terms, many misunderstandings have arisen. All branches of medicine are now obliged to standardize their terms in Japanese. The ophthalmologic and gynæcologic societies and the anatomic section have already completed the unification of technical terms used in these branches of medicine. The Physiologic Society is proceeding to do so. The general policy of selecting proper terms is based on the following principles: The selection of terms should adhere to the spirit of the rules adopted by the National Language Council of the Bureau of Education and should employ the Chinese character in common use selected by that Council. The medical names used by the National Resources Bureau of the cabinet will be employed as much as possible. As for words of foreign origin, there will be much discussion as to whether the foreign term should be adopted as has heretofore been done or whether it should be translated into Japanese. The only difficulty of this important work is that it has no central authority; but the Bureau of Education will take up this work in due time.

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EXPERIMENTAL CANCER OF THE LIVER

The Cancer Research Society has awarded its annual prize for 1935 to Dr. Tomizo Yoshida of the Sasaki Institute for his success in producing experimentally tumours in the liver. He is reported to be the first man to succeed in producing in the viscera tumor of any kind. He experimented on 300 black rats for months and he is going to make public the details of the experiments before long.

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THE NUMBER OF GERMAN PHYSICIANS

According to the statistical report just published, there are 52,342 licensed physicians in the German Reich, including the Saar region. It would appear, therefore, that the increases in the medical profession have terminated, for the present. This standstill in the numerical trend is not due to any lack of aspirants. An increase of about 1,400 over the last census was expected, whereas the actual increase is only 125. The physicians who have emigrated to foreign countries, about 1,300 in number, have of course influenced the present status (The Journal, May 11, page 1766). Of the 52,342 registered physicians, 3,590, or 6.85 per cent. were women (5.63 per cent. in 1930, 6.44 per cent in 1932). The percentage of women physicians therefore shows a constant increase, so that now there is a woman physician for every fourteen male physicians. There are 10,595 physicians connected with institutions, not counting those in röntgenologic institutes, laboratories and pathologic institutes. Owing to a temporary dearth of assistants physicians have been changed into positions for deparment or chief physicians. The number of nonpractising physicians also has increased. In 1932 there were 3,015 such physicians, whereas in 1935 the number had increased to 3,679, or 7 per cent. of the total number of physicians. This increase is doubtless due not so much to disqualification on account of age as to the fact that numerous non-Aryan physicians have given up their practice; furthermore, a more exact registration may account for part of the increase. Of the 48,663 male and female physicians connected with institutions or having an independent practice, 15,456 were specialists (which

does not include the specialists for physical and dietetic therapy, radiologic diagnosis and therapy, medicomechanics, diseases of the mouth and jaws, disorders of the lower extremities, homœopaths and medical directors of athletic associations). The recognized specialists constitute at present 31.7 per cent. of the registered practising physicians (in 1930, 28.9 per cent.). Table 1 shows their distribution.

TABLE 1:—Distribution of Specialists in Germany.

Specialities represented	Total number representing each speciality.	Percentage of specialists representing each speciality.	
		1935	1930
Internal diseases ...	3,862	25·0	24·4
Surgery, including orthopedics and diseases of women ...	2,952	19·1	16·7
Gynæcology	1,636	10·6	11·0
Diseases of children ...	1,173	7·6	8·2
Mental and nervous diseases	1,058	6·8	6·4
Diseases of the eye ...	1,353	8·8	9·1
Laryngology, rhinology and otology ...	1,517	9·8	10·2
Dermatology, venerology and urology ...	1,905	12·3	14·0

While there has been a general increase in the number of specialists, some specialities show an increase (the internists and the surgeons) and others a decrease (the dermatologists and the pediatricians). In the fifty-three large cities with 100,000 or more inhabitants, 49 per cent. of the physicians reside, and the forty-eight cities with between 50,000 and 100,000 population claim 8.2 per cent. In the whole German reich there is an average of 7.9 physicians for each 10,000 inhabitants; in the groups of cities just mentioned, however, there are 12.8 and 12.3,, respectively, for each 10,000 inhabitants, so that in the communes with fewer than 50,000 inhabitants there are only 5,3 physicians to 10,000 of population. While there is a wide range of difference in the percentage of physicians in the several groups of cities, the distribution of the specialists in the various areas shows but slight differences. For example, the percentage of specialists in the large cities is almost the same as in the cities with from 50,000 to 100,000 population. On the other hand, the proportion of women physicians in the large cities is 8.8 per cent., in the middle-sized cities 6.8 per cent., and in the smaller communes only 4.7 per cent.

Formerly few physicians emigrated to foreign countries. According to recent statistics, 1,307 physicians have emigrated, which constitutes more than 2.4 per cent. of the medical profession. About two thirds of the emigrants belonged to the 30—45 age group; approximately one tenth were younger, while 16 per cent. were women. More specialists were among the emigrants than their representation in the medical profession would lead one to expect. Table 2 shows the percentage of specialists among the emigrants belonging to each specialty, and also the percentage of specialists among the physicians remaining.

TABLE 2:—Percentage of specialists among the emigrants belonging to each specialty. Also among the Physicians remaining.

Specialities.	Representation of each speciality among the emigrants.	Among physicians remaining.
Internists	12·4%	7·4%
Surgeons	5·4%	5·6%
Gynæcologists	4·4%	3·1%
Pediatricians	5·5%	2·2%
Dermatologists	5·3%	3·6%
Ophthalmologists, Otologists, Laryngologists, Rhinologists	3·3%	5·5%
Other physicians ...	63·7%	72·6%

From Berlin, 572 physicians have emigrated; from Frankfort-on-Main 59; from Hamburg 58. Table 3 shows the percentage of physicians emigrants going to the various countries; in addition 584 failed to state the country to which they were emigrating.

TABLE 3:—Percentage of Physician emigrants going to the various countries.

Foreign destinations of Physician emigrants.	Percentage of Physician emigrants going to various foreign countries.
Africa	2·9
America	13·0
Asia	5·5
Austria	2·6
Czechoslovakia	2·4
England	7·6
France	7·7
Italy	5·0
Netherlands and Belgium	4·6
Northern Europe	3·2
Palestine	33·6
Poland, Portugal and Spain	1·5
South-eastern Europe	4·6
Switzerland	5·8

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LAW TO CHECK ABUSE OF PUBLIC HOSPITAL SERVICE

One of the members of the French Chamber of Deputies has introduced a bill to prevent further admissions to the public (free) hospitals of those who are able to pay. During the last few years the public hospitals have been overcrowded. Many persons whose means permitted them to enter private hospitals have been admitted because they wished to be under the care of medical men who are chosen on a competitive basis and who represent the leaders of the profession. The public hospital authorities have admitted many who should have been cared for elsewhere because the hospital budgets were greatly reduced. The medical profession has protested in vain thus far; hence this law will prevent abuse of the privilege to enter free hospitals. A committee will be appointed in each department of France. A representative of the administration and two physicians will constitute the personnel of the committee. Only emergency cases and persons who are proved to be indigent or temporarily without resources will be admitted if this bill becomes a law. After investigation of the individual applicant, a card, valid for six months, will be issued to those who are eligible to enter the free hospitals. The deputy in presenting the bill stated that " everything possible must be done to lighten the burden of a profession that has suffered so intensely and yet has remained faithful to its ideal of helping suffering mankind."

(*Journal of A. M. A.*, Vol. 105., No. 5., Aug. 3, 1935).

BILL TO CHECK THE ADVERTISEMENT OF NOSTRUMS

The misleading, not to say fraudulent, claims made for nostrums, otherwise termed " patent medicines," in the advertisements of newspapers have long been a scandal. Some years ago, the British Medical Association tried to deal with the evil by publishing a booklet on Secret Remedies, disclosing their composition and showing how most vaunted preparations consisted of very ordinary ingredients quite incapable of fulfilling the claims made for them. But the many millions of dollars spent on these advertisements shows that the evil is unchecked. At the House of Commons the Minister of Health, Sir KINGSLEY WOOD, received a deputation from the Parliamentary Committee on food and health, which also represented a number of important bodies, commercial as well as professional: British Medical Association, Pharmaceutical Society, National Pharmaceutical Union, Society of Medical Officers of Health, National Association of Insurance Practitioners, Advertising Association, Newspaper Society, Surgical Instrument Manufacturers' Association and others. Captain ELLISTON, M.P., who spoke for the deputation, said that the Parliamentary Committee on food and health had in preparation for some time the draft of a bill to control the advertisement of medicines and surgical appliances. In 1912—1914 a Select Committee of the House of Commons, at the instigation of the Parliamentary Committee on food and health, investigated the question and reported in favour of legislation. Then came the War. Several endeavours have since been made to introduce legislation but it had not been possible to make progress with a bill. One difficulty was to secure the agreement of the many interest concerned. The present bill had been discussed with all the important interests affected and a measure of agreement had been reached. The principal objects of the bill were: (1) To prohibit the advertisement of medicines, surgical appliances or forms of treatment as effective for the cure or prevention of certain specified ailments, such as cancer and tuberculosis. (2) To prohibit the invitation to members of the public to obtain the diagnosis or treatment of these ailments by correspondence. The bill also contained clauses safeguarding the legitimate interests of those concerned, including newspapers and religious organizations. Speaking as president of the Advertising Association, Sir. JOHN PYLUS said that the bill would not affect adversely any legitimate trade interest. The Newspaper Proprietors' Association had not committed itself to support the bill, but its representatives had taken part in the drafting. In view of the safeguards for the newspapers there was no need to anticipate any opposition from their association.

In replying, the Minister of Health said that he greatly appreciated the valuable work done by the Parliamentary Committee on food and health. Although many newspapers already set a high standard in the matter, legislation was undoubtedly needed. He would have the bill examined and make inquiries as to the amount of support that might be anticipated for it. If this proved satisfactory, the introduction of legislation would be considered sympathetically, if the Government's general programme of legislation made this possible. It may be commented on this proposal and reply that, while it would be well that unfortunate sufferers from cancer and

promises of cure, the bill touches only a small part of tuberculosis should be protected against the fraudulent advertising. Evidently the condition requiring the support of the interests concerned does not allow more to be done.

(*Journal of A. M. A.*, Vol. 105., No. 5., Aug. 3, 1935).

THE NATIONAL INSTITUTE OF SCIENCES OF INDIA

Endowmetns

The National Institute of Sciences has received the following endowments:—

Central Provinces Manganese-ore Co., Ltd.		Rs. 10,000
The Burmah Oil Company	...	,, 15,000
Dr. S. C. Law	...	,, 2,000
Dr. D. N. Wadia	...	,, 1,000
	(in memory of Mrs. Wadia)	
Calcutta University	...	,, 500
	(per annum for two years)	

Sectional Committees

The following Sectional Committees have been formed:—

(1) *Mathematics Committee:*
Prof. A. C. Banerjee, Mr. T. P. Bhaskara Shastri, Brigadier H. J. Couchman, Prof. C. V. Hanumantha Rao, Principal G. S. Mahajani and Prof. N. R. Sen (Secretary and Convenor).

(2) *Physics Committee:*
Dr. Nazir Ahmed, Dr. P. N. Ghosh, Dr. C. W. B. Normand, Sir C. V. Raman, Prof. M. N. Saha and Prof S. K. Mitra (Secretary and Convenor).

(3) *Chemistry Committee:*
Prof. S. S. Bhatnagar, Prof. N. R. Dhar, Sir M. O. Forster, Prof. H. K. Sen, Mr. B. C. Burt and Prof. P. C. Mitter (Secretary and Convenor).

(4) *Engineering Committee:*
Mr. A. C. Ash, Mr. H. P. Philpott, Principal F. Mowdawala, Dr. D. Penman, Mr. E. A. Wraight and Dr. E. Spencer (Secretary and Convenor).

(5) *Geology Committee:*
Sir L. L. Fermor, Dr. G. S. Fox, Prof. K. K. Mathur, Mr. E. S. Pinfold, Mr B. Rama Rao and Dr. A. M. Herson (Secretary and Convenor).

(6) *Botany Committee:*
Prof. S. L. Ajrekar, Mr. H. G. Champion, Prof. M. O. P. Iyengar, Prof. P. K. Parija, Dr. F. J. F. Shaw and Mr. C. C. Calder (Secretary and Convenor).

(7) *Zoology Committee:*
Dr. C. F. C. Beeson, Dr. F. H. Gravely, Principal M. Afzal Hussain, Dr. J. H. Hutton, Dr. K. B. Bahl and Dr. B. Prashad (Secretary and Convenor).

(8) *Physiology Committee:*
Lt.-Col. O. A. R. Berkely Hill, Sir U. N. Brahmachari, Lt.-Col. R. N. Chopra, Prof. P. K. Koshy, Lt.Col. R. Row, Lt.-Col. A. D. Stewart, Lt.-Col. J. Taylor, Mr. F. Ware and Lt.-Col. R. Knowles (Secretary and Convenor).

(*Science and Culture*, Vol. 1, No. 3, August, 1935).

INDIAN MEDICAL COUNCIL

Lieutenant-Colonel P. S. Mills, M.B., B.S. (Lond.), D.T.M. & H, (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), I.M.S., Officiating Inspector-General of Civil Hospitals, Behar and Orissa, has been duly elected under clause (a) of sub-section (i) of Section 3 of the Indian Medical Council Act, 1933 (XXVII of 1933), as a member of the Medical Council of India, Vice-Colonel H. C. Buckley, I.M.S., resigned.

Lieutenant-Colonel N. S. Sodhi, M.C., L.R.C.P L.R.C.S. (Edin.), L.R.F.P. & S. (Glasgow), D.M.R.E. (Cantab.), D.T.M. (Edin), L.M. (Dublin), I.M.S., Officiating Inspector-General of Civil Hospitals, Burma, has been duly nominated by the Government of Burma, under Clause (a) of sub-section (i) of Section 3 of the Indian Medical Council Act, 1933 (XXVII of 1933), as a member of the Medical Council of India, Vice-Lieutenant-Colonel P. K. Tarapore, I.M.S. (Retired), resigned.

(*I. M. G.*, September, 1935).

ACKNOWLEDGMENTS

List of Journals (Foreign)
Added to the List of Exchange

1. The Journal of the Philippine Islands Medical Association.
2. The Journal of the Ceylon Branch of the British Medical Association.
3. Annales de la Faculte Française de Medecine et de Pharmacie de Beyrouth. (In the French Language).
4. The Journal of the Egyptian Medical Association. (In English and Persian).
5. Japanese Journal of Obstetrics and Gynæcology.

List of Journals (Inland)
Added to the List of Exchange

1. The Medical Bureau.

The following book has been received for reviewing:—

1. Leprosy with Special References to Its Occurrence in India—By Dr. S. N. Malhotra, M.B.B.S. (Punj), F.C.P.S. (Bom.). M. D. (Volt.) P—109. Price Rs. 4-4-0. Published by Rayan Pharmacy, 97, Girgaum Road, Bombay.